City of Hermosa Beach

FINAL CIRCULATION
TRANSPORTATION AND PARKING
ELEMENT

March 1990

PREPARED BY

DKS Associates

FINAL

CIRCULATION, TRANSPORTATION AND PARKING ELEMENT FOR THE CITY OF HERMOSA BEACH

Prepared for

CITY OF HERMOSA BEACH

Prepared by

DKS ASSOCIATES
411 West Fifth Street
Los Angeles, CA 90013

March 1990

P87194x0

TABLE OF CONTENTS

FIGURES

TABLES

SECTION 1

INTRODUCTION

1.0 INTRODUCTION TO THE CIRCULATION, TRANSPORTATION AND PARKING ELEMENT

The purpose of the Hermosa Beach Circulation, Transportation and Parking Element is to evaluate the transportation needs of the City and present a comprehensive transportation plan to accommodate those needs. The inability of cities in Southern California to continually expand and upgrade streets and highways has brought about a growing awareness by the public for the need for alternate modes of transportation and decreasing reliance on the single passenger automobile. The Element thus provides a balanced plan for transportation in Hermosa Beach which considers streets and roads, public transit, ridesharing, parking and other issues.

1.1 GOVERNMENT CODE RELATING TO CIRCULATION PLANNING

Under State planning law, each city must develop and adopt a comprehensive long-term general plan for the physical development of that city. The following is a mandatory requirement relating to city transportation planning:

> **Government Code Section 65302(b):** A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.

The current City of Hermosa Beach Circulation Element was prepared in 1979. This document represents an update of the previous circulation element and therefore builds upon it as a starting point. Since the City of Hermosa Beach is not a new developing city but rather one that is largely built out, many of the strategic decisions related to transportation facilities (e.g., locations of roadways) were made through previous circulation elements. This element, however, provides the opportunity to evaluate how best to utilize those facilities.

1.2 CIRCULATION SYSTEM OF THE CITY OF HERMOSA BEACH

The circulation system within and adjacent to the City includes the following:

a) streets and highways
b) transit and paratransit services
c) parking
d) railroad lines (abandoned)
e) bicycle and pedestrian facilities
f) goods movement
g) freeway for regional access approximately 2.5 miles east of City

Since the date of the last circulation element, significant changes have occurred in operating conditions on streets and highways, to parking availability and to the types of transit services offered in Hermosa Beach and throughout the South Bay and Southern California regions. Traffic volumes on freeways leading into the South Bay have increased approximately 25 percent since 1979, traffic volumes on some city streets have increased substantially, and population in Southern California has grown approximately 15 percent.

This document is divided into three major issue areas:

1. The Circulation System
2. The Transportation System
3. Parking

Section 2 includes the combined proposed goals, objectives and policies for the Circulation, Transportation and Parking Element Update. Section 3 presents existing circulation system conditions and the proposed circulation plan, concentrating on the roadway network in the City. Section 4 summarizes the transportation system and addresses transit service and transportation demand management strategies. Section 5 includes the parking plan.

1.3 OVERVIEW OF PREVIOUS CIRCULATION ELEMENT

The previous City of Hermosa Beach Circulation Element, which was prepared in 1979, includes existing conditions and trends plus 27 key transportation needs, policies and programs. The 27 items include transit, ridesharing, roadway, pedestrian and bicycle related issues. The following summary describes each statement of need, policy or program and the action taken by the City since 1979 regarding each item.

Policy 1 - Improve Regional Transit

"The City shall work with other cities and regional agencies to upgrade intercity transit services so as to reduce the relative transit isolation of the City and the South Bay and the subsequent auto dependency. Particular attention should be paid to reestablishing direct night service to major points of interest such as El Camino College, California State University Dominguez Hills, Los Angeles Airport, West Los Angeles, and Downtown Los Angeles. Every effort should be made to reinstate the 25¢ fare. Transit vehicles in the South Bay area should be the new small buses which are quieter and energy efficient."

A complete discussion of transit services in the City since 1979 is presented in Section 4. The Commuter Transportation Implementation Plan (CTIP), completed in April 1988, is a recent effort to investigate transit service needs and potential improvements in Hermosa Beach and the South Bay. The plan was developed through the joint efforts of the cities of El Segundo, Hermosa Beach, Lawndale, Los Angeles, Rancho Palos Verdes, Redondo Beach, Torrance and the Los Angeles County Transportation Commission. A summary of the findings of the CTIP Study is included in Section 4 of this document.

Policy 2 - Improve Free Bus Service

"The intracity free bus service should be maintained with appropriate improvement in system operation such as equipment, bus benches, reduction in headway times where possible. The bus should be expanded to seven days a week operation and operating hours expanded provided financial assistance can be generated by the City. The system should, however, remain in localized system and not become overly expansive in character. The free bus should continue and enlarge upon its role as a linking system with regional transit and also an alternative to parking by the beach. It is a policy of the City to maintain a local intracity system that is responsive to the specific needs of Hermosa Beach, something that would be lost in relying solely on a regional carrier."

The free bus service was maintained until 1984. See Section 4 for further discussion of the service's history.

Policy 3 - Pacific Coast Highway Improvements

Various improvements were proposed including traffic signal system improvements, morning northbound and evening southbound parking prohibitions to add through lanes and median closures at low volume cross-streets.

One significant improvement that was implemented since the date of the last Circulation Element is a traffic signal coordination and interconnect program. This $1.4 million project was designed to optimize signal timing coordination along Pacific Coast Highway during the peak hours and reduce motorist delay at traffic signals. The benefits of this project have not yet been fully realized due to the very high peak period traffic volumes. Signal optimization improves roadway operations most effectively when the street is operating at acceptable service levels. Thus, with current traffic volumes, benefits of this project are minimal. The signal coordination and interconnect program would help improve conditions if capacity on Pacific Coast Highway is increased or traffic volumes decrease. Mitigation measures to improve traffic flow on Pacific Coast Highway are discussed in Section 3.

A second major project implemented along Pacific Coast Highway was morning and evening peak hour parking restriction programs. The morning restrictions are still in place and they provide a third through lane in the northbound direction from 7:00 to 9:00 AM. Parking was also prohibited during the 4:00 to 7:00 PM period on the west side of the street (in the southbound direction) for a two-week period during 1979. Parking was reinstated after approximately two weeks due to significant community opposition to the parking removal project. Due to the short duration of the project, Caltrans was not able to monitor the effectiveness of the third southbound through lane in relieving traffic congestion.

A project is currently underway which will add a southbound lane on Pacific Coast Highway between 10th and 15th Streets through a combination of lane restriping and roadway widening. Following completion of the project, the entire length of Pacific Coast Highway through Hermosa Beach will be sufficiently wide to allow three through lanes in the southbound direction during peak hours with parking prohibitions.

Policy 4 - Designated Arterial Streets

Designated arterial streets in the previous Circulation Element are as follows:

Arterials:

Pacific Coast Highway
Artesia Boulevard
Aviation Boulevard
Pier Avenue
Hermosa Avenue (Herondo to 14th Street)

Collectors:

Prospect Avenue
Valley Drive (Herondo Street to Pier Avenue)
Ardmore Avenue (Pier Avenue to north City boundary)
Monterey Boulevard
Manhattan Avenue (Greenwich Village to north City boundary)
Greenwich Village
Hermosa Avenue (Greenwich Village to 14th Street)
Eighth Street (Pacific Coast Highway to Hermosa Avenue)
Fifth Street (Prospect Avenue to Pacific Coast Highway)
Second Street (Pacific Coast Highway to Hermosa Avenue)
Gould Avenue
27th Street (Pacific Coast Highway to Greenwich Village)

More information regarding roadway functional classification is presented in Section 3, the Circulation System Plan. These roadway classifications are updated as part of this plan. Section 3.10 displays suggested facility designations given existing and projected traffic operating conditions.

Policy 5 - Left Turn Prohibitions

"Left turns shall be prohibited at peak hours (4:15 to 6:15 PM) for westbound traffic on Aviation onto Prospect Avenue upon the completion of Policy 3. There shall also be a divider established on Aviation Boulevard from the east boundary of the City to Ocean Avenue, with an opening at the Prospect intersection only. The stop signs on Prospect Avenue between Aviation and 190th Street shall be evaluated upon the completion of Policy 3 to determine their needs."

A left-turn prohibition was implemented during peak hours and later reversed. The prohibition plan failed because vehicles drove past Prospect Avenue to Ocean Drive and circulated through residential neighborhoods.

Policy 6 - Create New Off-Street Parking

"The City shall encourage creation of additional off-street parking along Pacific Coast Highway from Pier Avenue southward."

This policy was discussed but never fully implemented.

Policy 7 - Five Corners Improvement

"The intersection of five corners (27th Street, Manhattan Avenue and Greenwich Village) shall be simplified with the one-waying of 27th Street from Manhattan Avenue to Hermosa Avenue westbound with access to southbound Manhattan traffic. No left turn for westbound 27th Street traffic at Manhattan shall be permitted, and southbound Manhattan traffic shall only turn left on to eastbound 27th Street or right on westbound Greenwich or 27th Streets."

This was implemented and later reversed.

Policy 8 - Double Left-Turn Lane on Westbound Leg of Artesia at Pacific Coast Highway

Caltrans implemented a left-turn lane/shared left-through lane on the westbound intersection approach. The improvement was later reversed due to traffic operations problems.

Policy 9 - One-Way Streets

"Convert Second Street between Pacific Coast Highway and Hermosa Avenue to one-way westbound and Eighth Street between Hermosa Avenue and Pacific Coast Highway to one-way eastbound."

This was never implemented. Section 3.10 discusses the pros and cons of the Second Street-Eighth Street one-way couplet.

Policy 10 - Valley Drive Modifications

"Valley shall be open to two-way traffic between Herondo and Second Street, but access shall be to westbound Herondo traffic. This is to be accomplished by a barrier or divider. Northbound traffic on Valley and southbound traffic on Ardmore at Pier Avenue will have to turn left onto the arterial and cannot continue on the collector."

Valley Drive operates as a one-way street southbound from Second Street to Herondo Street. North of Second Street, it is a two-way street with one lane in each direction.

Policy 11 - Convert Ardmore Avenue South of First Street into a Park

This policy was implemented.

Policy 12 - Walk Streets

"The City shall maintain its system of walk streets which contributes to neighborhood identity and cohesiveness and near the beach provides a safe and attractive access system for pedestrians, which is particularly important for children, handicapped and seniors. These walk street areas shall be landscaped and lighted and also designated as open space."

This policy was partially implemented. The walk street system has been maintained but never dedicated as open space. This would require a modification of the Land Use Element.

Policy 13 - One-Way Streets

"The following streets shall be converted to one-way operation from Manhattan Avenue to Hermosa Avenue:"

Westbound	Eastbound
27th Street	28th Street
29th Street	30th Street
31st Street	33rd Street
34th Street	35th Street

This policy was never implemented.

Policy 14 - Pedestrian and Jogging Path in Railroad Right-of-way

"The City shall seek to create a pedestrian and jogging path on the railroad right-of-way throughout its length within the City. Such a path will provide a safe route connecting city parks, schools, City offices and the post office. It provides for excellent north-south access across the middle of the City."

This policy was implemented. An environmental impact report concerning potential development in the right-of-way was completed in January 1988 but the development project has not been approved. The City is currently negotiating with Santa Fe for the purchase of the right-of-way. Barring any unforseen problems, it is expected that escrow should close on the purchase in 1990.

Policy 15 - Herondo Avenue Bike Lane

"The bike lane on Herondo Avenue shall be considered an east-west bike route for the City as well as for Redondo Beach."

This policy was implemented.

Policy 16 - One-Way Alleys

"The following alleys shall be converted to one-way operation:"

Northbound	Southbound
Palm	Bay View
Sunset (6th to Pier)	Loma (Pier to 6th)

This policy was implemented.

Policy 17 - Discourage Through Traffic on Eighth Street

"Through traffic shall be discouraged from using 8th Street between Pacific Coast Highway and Prospect due to its substandard 19' width."

Eighth Street operates as a one-way westbound street between Prospect Avenue and Pacific Coast Highway. This discourages all northbound through traffic during the morning peak hours which may use Eighth Street and Prospect Avenue as an alternate route to Pacific Coast Highway.

Policy 18 - Encourage Transportation Demand Management Measures

"The City shall work with regional and state agencies to encourage car pooling, van pooling, flexible work hours, park-and-ride systems in order to reduce the number of vehicles, particularly single passenger vehicles used, in order to reduce congestion, parking demand, air pollution, noise and excessive energy consumption."

The City of Hermosa Beach has pursued trip reduction measures and was the lead agency for the Commuter Transportation Implementation Plan (CTIP).

Policy 19 - Facilitate Bicycle Use Through the Use of Mid-block Barriers Passable Only by Bicycles and Pedestrians

"To facilitate bicycle usage and also reduce neighborhood intrusions on local streets while recognizing safety services needs, the use of mid-block or intersection barriers passable only to bikes, pedestrians and emergency vehicles should be considered. This would enhance the usability of local streets for bicycle travel."

No new barriers have been installed since the date of the previous Circulation Element, however, many were already in place at that time.

Policy 20 - Provide Additional Bike Storage and Locking Facilities

"To facilitate the use of bicycle facilities for storing and locking bikes at commercial, civic and recreational centers should be provided."

This policy has been implemented at various sites throughout the City.

Policy 21 - Provide Ramps for Handicapped Persons at All Curbs

"To enhance access for all citizens, handicapped ramps at all curbs should be provided beginning with street corners in the commercial district and those in the vicinity of public buildings."

This policy has been partially implemented by the City and is implemented as development occurs adjacent to curbs without access for the handicapped.

Policy 22 - Convert Western Ends of 13th, 14th and 15th Streets to Parks

"On parts of local streets found to not be needed for through traffic or property access consideration should be given to non-automobile usage such as mini-parks. The western ends of 13th, 14th, and 15th Streets (west of Beach Drive) are examples of potential right-of-way parkettes."

This policy has been implemented.

Policy 23 - Continue to Landscape the Railroad Right-of-way and Preserve This Space as a Scenic and Open Space Area

This has been implemented.

Policy 24 - Provide Landscaping along Pacific Coast Highway, Aviation Boulevard, Gould Avenue, Hermosa and Pier Avenues. Remove Overhead Utilities Where Possible

This policy has been partially implemented. Some overhead utilities have been removed on Pacific Coast Highway. Landscaping was provided on Gould Avenue.

The following three policies (25 through 27) were included in the scenic highways portion of the Circulation Element. They are not actually appropriate as Circulation Element policies, but rather belong in the Land Use Element or Urban Design Element portions of the General Plan.

Policy 25 - Require Minimum 2-foot Setback on All New Development

This policy was not implemented.

Policy 26 - Projects Within the Potential Scenic View Corridor Shall be Subject to Design Review

Design review is currently required of certain projects although this policy was periodically not implemented since the previous Circulation Element.

Policy 27 - The City Shall Strive to Obtain Scenic Easements to Permanently Preserve View Points

This policy was never implemented.

SECTION 2

GOALS, OBJECTIVES AND POLICIES

2.0 GOALS, OBJECTIVES AND POLICIES

Circulation goals, objectives and policies have been assembled for the City of Hermosa Beach to guide policy makers and City staff in implementation of the objectives of the Circulation, Transportation and Parking Element. Issues were first identified and categorized into four basic components; 1) the physical transportation system, 2) travel demand on City streets, 3) commercial and residential parking and 4) preservation of residential neighborhood environments. A general goal describes the overall direction for circulation planning within the City, while objectives and implementation policies were defined in response to each of the four major issues.

Objectives are statements of accomplishments that the City will strive to achieve as part of the circulation planning process while implementation policies are actions used to actually achieve the objectives. The objectives are presented in priority rank beginning with the most important, based on direction provided by the Hermosa Beach City Council. The objectives and implementation policies are also presented separately in the Circulation, Transportation and Parking Element sections.

OVERALL GOAL: Provide a balanced transportation system for the safe and efficient transport of people and goods consistent with the goals of the Land Use Element.

OBJECTIVE 1.0:

Maximize the use of alternative transportation modes and multi-passenger vehicles for transportation within and through the City and decrease reliance on single passenger automobiles.

IMPLEMENTATION POLICY 1.0

Encourage participation in carpool matching services by residents and City businesses.

IMPLEMENTATION POLICY 1.1

Coordinate to the extent possible with neighboring cities in the development of a Transportation Demand Management Plan.

IMPLEMENTATION POLICY 1.2

Maximize the use and availability of public transit service within the City by residents and visitors.

IMPLEMENTATION POLICY 1.3

Seek and support ways of expanding available capital funding and operating subsidies for public transportation.

IMPLEMENTATION POLICY 1.4

Promote transfer arrangements between the City's paratransit and fixed-route service, as well as between other paratransit operations in nearby cities.

IMPLEMENTATION POLICY 1.5

Maintain coordinated schedules and fare structures among the varied transit services so they are affordable and accessible to transit dependent persons and residents throughout the City.

IMPLEMENTATION POLICY 1.6

Investigate the potential of using vacant land area at the City's boundaries as park-and-ride sites.

IMPLEMENTATION POLICY 1.7

Encourage and facilitate pedestrian and bicycle travel city-wide.

IMPLEMENTATION POLICY 1.8

Provide for the transport of bicycles on public transit vehicles (both fixed route and paratransit) wherever possible.

IMPLEMENTATION POLICY 1.9

Maintain the surfaces of bike paths and pedestrian ways to maximize safety and ease of travel.

OBJECTIVE 2.0

Protect the environment on local residential streets by minimizing the intrusion of vehicular traffic and parking into residential neighborhoods.

IMPLEMENTATION POLICY 2.0

Make reasonable efforts to maintain volumes below 2,500 vehicles per day on local residential streets, wherever possible.

IMPLEMENTATION POLICY 2.1

Through vehicle traffic shall be reduced and diverted from residential neighborhoods by implementation of a neighborhood traffic control program which include neighborhood participation and review. A neighborhood traffic control program would provide a mechanism for review of specific neighborhood traffic problems at the request of organized neighborhood groups. Neighborhood area studies would respond to specific through traffic, speed or accident problems. Traffic control devices such as signs, signals and pavement markings as well as traffic management devices such as medians and traffic diverters would be studied as potential solutions on a case-by-case basis.

IMPLEMENTATION POLICY 2.2

Implement all measures which would add capacity to Pacific Coast Highway that are feasible and practical to keep traffic flowing as smoothly as possible and to reduce the tendency for drivers to such alternate parallel routes.

IMPLEMENTATION POLICY 2.3

Locate new developments and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys for access to the development and its parking.

OBJECTIVE 3.0

Ensure an adequate supply of parking, both on-street and off-street, to meet the needs of both residents and commercial businesses.

IMPLEMENTATION POLICY 3.0

Study construction of a public parking facility in the downtown to enhance business, possibly on the northwest corner of Pier and Manhattan Avenue; and in the Civic Center area to serve visitors to the City. Investigate an efficient shuttle system to serve the parking structure and beach front areas.

IMPLEMENTATION POLICY 3.1

Encourage the provision of preferential parking for high occupancy vehicles wherever possible.

IMPLEMENTATION POLICY 3.2

Continue implementation of preferential parking districts in residential neighborhoods when requested by residents and shown to be warranted by existing conditions.

IMPLEMENTATION POLICY 3.3

Encourage the most efficient use of parking facilities. Where applicable, existing development should consider provisions for compact spaces, tandem parking valet service, shared parking and other innovative means to resolve parking deficiency.

IMPLEMENTATION POLICY 3.4

Remodel existing public parking lots and street spaces as necessary to improve efficiency, safety and urban design.

IMPLEMENTATION POLICY 3.5

Require that all parking facilities provide parking spaces appropriate to the needs of the handicapped.

IMPLEMENTATION POLICY 3.6

Require all new development to accommodate project-generated parking consistent with encouraging alternate transportation demand management programs.

IMPLEMENTATION POLICY 3.7

Require the use of garages for parking of vehicles and not for storage, and periodically evaluate the adequacy of existing standards in light of vehicle ownership patterns within the City.

OBJECTIVE 4.0:

Develop and construct transportation improvements to provide the capacity and performance necessary to meet the service needs of the public while preserving open space and the special environmental quality of the City.

IMPLEMENTATION POLICY 4.0

Maintain level of service (LOS) C or better during peak hours at signalized intersections whenever possible.

IMPLEMENTATION POLICY 4.1

Improve intersections in the City which currently provide peak hour traffic service levels worse than "C" where feasible within existing right-of-way and where no significant environmental impact would result.

IMPLEMENTATION POLICY 4.2

Improve sight distance and operating problems at other intersections which do not experience capacity problems but are shown to experience operational problems.

IMPLEMENTATION POLICY 4.3

Improve arterial mid-block segments to provide average daily service levels of "D" or better to prevent use of local and collector streets as alternate routes for commuter and other non-local traffic in the City.

IMPLEMENTATION POLICY 4.4

All new development shall be required to provide reasonable mitigation measures for traffic impacts identified by the City.

IMPLEMENTATION POLICY 4.5

Prohibit on-street parking in selected locations to increase roadway capacity for moving traffic, where such prohibitions will not unduly negatively impact commercial establishments.

IMPLEMENTATION POLICY 4.6

Consider the addition of lanes for through traffic via arterial widening only when other measures such as parking prohibition, signal coordination and improved transit service have been implemented or are not feasible.

IMPLEMENTATION POLICY 4.7

Provide and maintain pedestrian access routes throughout the City including sidewalks, walk streets, and pedestrian bridges.

IMPLEMENTATION POLICY 4.8

Maintain paved surfaces on all public roadways throughout the City to a level which will assure safe and efficient traffic flow.

IMPLEMENTATION POLICY 4.9

Require that vehicle access to new residential developments which front both street and alley be provided in the alley only. This will minimize on-street curb cuts and preserve available parking.

SECTION 3

CIRCULATION

3.0 EXISTING CIRCULATION SYSTEM CONDITIONS

3.1 CIRCULATION ELEMENT GOALS, OBJECTIVES AND POLICIES

The complete list of goals, objectives and implementation policies for the Circulation, Transportation and Parking Element was presented in Section 2. Repeated below are those objectives and policies which are specifically applicable to the circulation section of the element.

OVERALL GOAL: Provide a balanced transportation system for the safe and efficient transport of people and goods consistent with the goals of the Land Use Element.

OBJECTIVE 2.0

Protect the environment on local residential streets by minimizing the intrusion of vehicular traffic and parking into residential neighborhoods.

IMPLEMENTATION POLICY 2.0

Make reasonable efforts to maintain volumes below 2,500 vehicles per day on local residential streets, wherever possible.

IMPLEMENTATION POLICY 2.1

Through vehicle traffic shall be reduced and diverted from residential neighborhoods by implementation of a neighborhood traffic control program which include neighborhood participation and review. A neighborhood traffic control program would provide a mechanism for review of specific neighborhood traffic problems at the request of organized neighborhood groups. Neighborhood area studies would respond to specific through traffic, speed or accident problems. Traffic control devices such as signs, signals and pavement markings as well as traffic management devices such as medians and traffic diverters would be studied as potential solutions on a case-by-case basis.

IMPLEMENTATION POLICY 2.2

Implement all measures which would add capacity to Pacific Coast Highway that are feasible and practical to keep traffic flowing as smoothly as possible and to reduce the tendency for drivers to such alternate parallel routes.

IMPLEMENTATION POLICY 2.3

Locate new developments and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys for access to the development and its parking.

OBJECTIVE 4.0:

Develop and construct transportation improvements to provide the capacity and performance necessary to meet the service needs of the public while preserving open space and the special environmental quality of the City.

IMPLEMENTATION POLICY 4.0

Maintain level of service (LOS) C or better during peak hours at signalized intersections whenever possible.

IMPLEMENTATION POLICY 4.1

Improve intersections in the City which currently provide peak hour traffic service levels worse than "C" where feasible within existing right-of-way and where no significant environmental impact would result.

IMPLEMENTATION POLICY 4.2

Improve sight distance and operating problems at other intersections which do not experience capacity problems but are shown to experience operational problems.

IMPLEMENTATION POLICY 4.3

Improve arterial mid-block segments to provide average daily service levels of "D" or better to prevent use of local and collector streets as alternate routes for commuter and other non-local traffic in the City.

IMPLEMENTATION POLICY 4.4

All new development shall be required to provide reasonable mitigation measures for traffic impacts identified by the City.

IMPLEMENTATION POLICY 4.5

Prohibit on-street parking in selected locations to increase roadway capacity for moving traffic, where such prohibitions will not unduly negatively impact commercial establishments.

IMPLEMENTATION POLICY 4.6

Consider the addition of lanes for through traffic via arterial widening only when other measures such as parking prohibition, signal coordination and improved transit service have been implemented or are not feasible.

IMPLEMENTATION POLICY 4.7

Provide and maintain pedestrian access routes throughout the City including sidewalks, walk streets, and pedestrian bridges.

IMPLEMENTATION POLICY 4.8

Maintain paved surfaces on all public roadways throughout the City to a level which will assure safe and efficient traffic flow.

IMPLEMENTATION POLICY 4.9

Require that vehicle access to new residential developments which front both street and alley be provided in the alley only. This will minimize on-street curb cuts and preserve available parking.

3.2 MAJOR STREET CHARACTERISTICS

Functional Classification

The primary circulation system in the City of Hermosa Beach is the network of surface streets. The street system serves two distinct and equally important functions: Access to adjacent properties, and movement of persons and goods into and through the City. The design and operation of each street depends upon the importance placed on each of these functions. For example, streets designed to carry large volumes of vehicles into and through the City have more lanes, higher speed limits, and fewer driveways, while residential streets have fewer lanes, lower speed limits, and more driveways to provide access to fronting properties.

A classification system is used to identify the function of each street in the City. This system is very important because it provides a logical framework for the design and operation of the street system. The functional classification system allows the residents and elected officials to identify preferred characteristics of each street. If observed characteristics of any street changes from the functional classification, then actions can be taken to return the street to its originally intended use or to change the designated classification. For example, if traffic volumes and speeds on a residential street exceed expected levels, then measures can be implemented which are designed to lower traffic volumes and reduce speeds.

The previous Circulation Element categorizes roadways into three functional classification types: arterial streets, collector streets and local residential streets. Figure 1 displays the functional classification system per the previous Circulation Element.

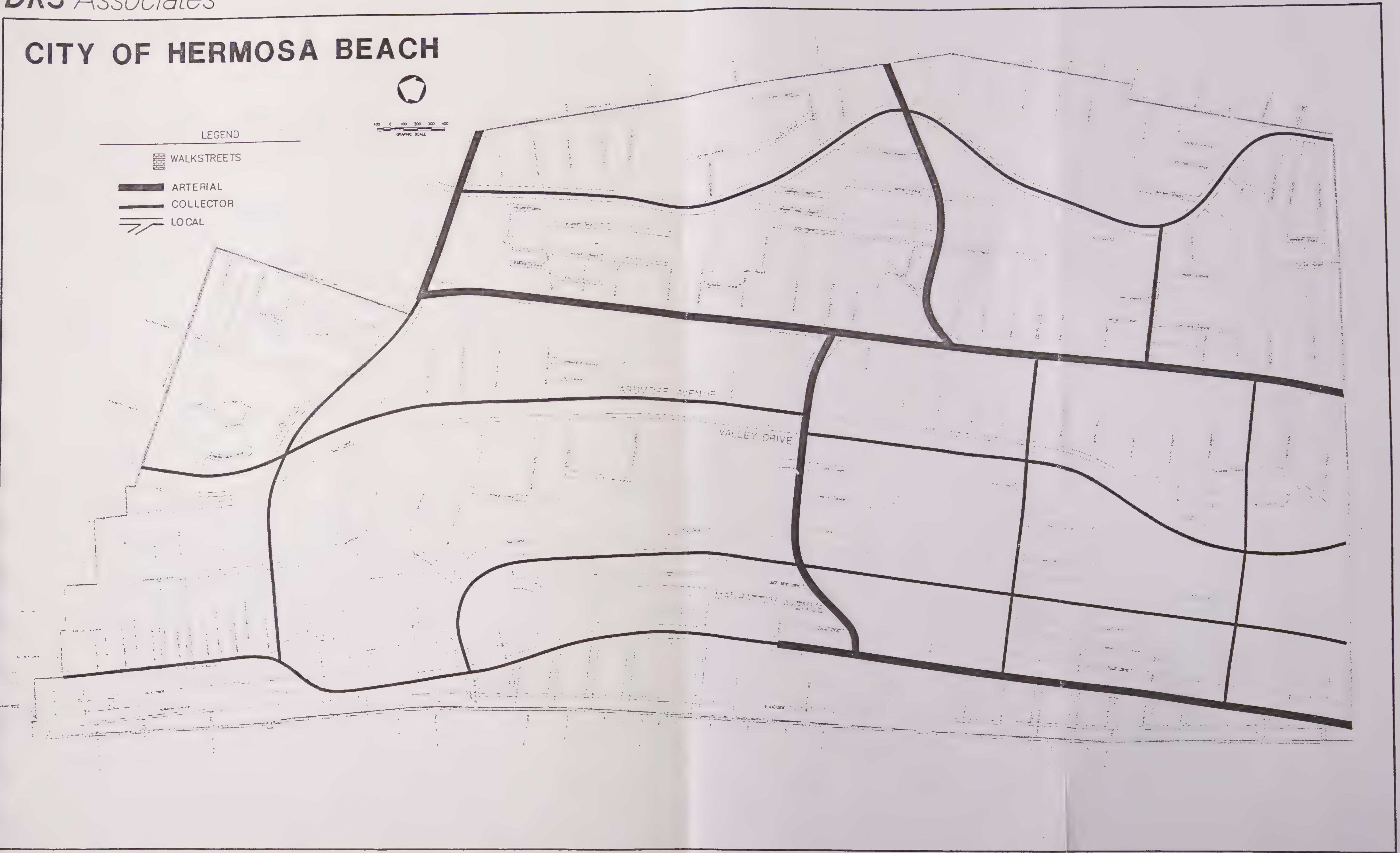


Figure 1
EXISTING FUNCTIONAL CLASSIFICATION SYSTEM (1979 Circulation Element)

The following section describes the geometric and operational characteristics defined for arterial streets, collector streets and local residential streets in the City. The descriptions are grouped by facility type and include the number of lanes, presence of on-street parking, pavement width, and average daily traffic volume.

> Arterial Streets--are generally the commercial arteries. They carry the majority of traffic entering or traveling through the City. A major arterial would contain either four or six lanes of through traffic, plus left-turn lanes. Minor arterials serve the same function as major arterials, but have four lanes of through traffic and may or may not have separate left-turn lanes. Recommended design volumes on arterials range from 30,000 to 60,000 depending on number of lanes and left-turn movements.

Arterials serve two primary functions; to move vehicles into and through the City and to serve adjacent commercial land uses. Driveways and other curb cuts along arterials are generally limited to minimize disruption to traffic flow.

Designated arterial streets per the previous Circulation Element include:

Pacific Coast Highway
Aviation Boulevard
Artesia Boulevard
Pier Avenue
Hermosa Avenue (14th Street to south City limit)

> Collector Streets--are intended to carry traffic between residential neighborhoods and the arterial street network. They are generally two-lane roadways which have a mixture of residential and commercial land uses along them. Based upon planning criteria developed by the U.S. Department of Transportation and other agencies, average daily traffic volumes on collector streets should be held below approximately 15,000 vehicles per day in order to maintain acceptable levels of service at intersections and an environment compatible with residential land uses[*]. Higher density residential land uses or side yards of single family homes may be located adjacent to collector streets. Higher traffic volumes may be acceptable on certain collector streets such as those with fronting commercial development or extra wide cross sections.

Designated collector streets per the previous Circulation Element include:

Prospect Avenue
Valley Drive (Pier Avenue to south City limit)
Ardmore Avenue (Pier Avenue to north City limit)
Monterey Boulevard

---

[*] *Design of Urban Streets*, U.S. Department of Transportation, Federal Highway Administration, Washington, D.C., January 1980, p. 3-2.

Artesia Boulevard (State Route 91) - Artesia Boulevard, also called State Route 91, originates at Pacific Coast Highway in Hermosa Beach and runs eastward to the Harbor Freeway (I-110) where it becomes the Redondo Beach Freeway. It is controlled and maintained by Caltrans in Hermosa Beach and neighboring cities. Artesia Boulevard has four lanes plus a raised median and has a curb-to-curb width of 80 feet. The existing ADT volume on Artesia within the City is approximately 23,400.

Aviation Boulevard - Aviation Boulevard originates at Pacific Coast Highway in Hermosa Beach and curves northward past the Los Angeles International Airport through the Cities of Manhattan Beach and El Segundo. Within Hermosa Beach, it has two lanes each way plus curbside parking. It has a curb-to-curb width of 64 feet and carries an average daily traffic volume of 29,500.

Pier Avenue - Pier Avenue runs from Pacific Coast Highway to the beach. It has two lanes in each direction plus curb parking. West of Bard Street, it has angle parking on both sides of the street. Pier Avenue is 72 feet wide curb-to-curb from PCH to Ardmore Avenue and 80 feet wide west of Ardmore Avenue. East of Valley Drive, the current ADT on Pier Avenue is 20,800 and west of Manhattan Avenue it is 12,550.

Hermosa Avenue (South of 14th Street) - This segment of Hermosa Avenue has two lanes in each direction plus a raised median. Parking is allowed on both sides of the median and along both outside curbs south of 10th Street. From 10th to 14th Street, parking is allowed only along the outside curbs because left-turn lanes are provided in the median. The curb-to-curb width is 80 feet from 14th Street to 10th Street and 84 feet south of 10th Street. The ADT on this segment of Hermosa Avenue is approximately 17,570 vehicles.

Collector Streets

Hermosa Avenue (North of 14th Street) - The collector street portion of Hermosa Avenue runs from 14th Street northward to 35th Street. From 14th Street to 27th Street, it has two lanes in each direction plus a raised median. Parking is provided along both outside curbs as well as both sides of the raised median on this segment. North of 27th Street, it narrows to one lane in each direction with parking provided only along the outside curbs. The ADT on the collector portion of Hermosa Avenue ranges from 13,200 south of 19th Street to 3,700 north of 31st Street, while the curb-to-curb width is 84 feet from 14th Street to 27th Street and 48 feet north of 27th Street.

Valley Drive - Valley Drive is a two-lane street which runs parallel to Ardmore Avenue on the eastern side of the former Atchison, Topeka and Santa Fe (AT&SF) Railroad right-of-way throughout the City. North of the City, it becomes a one-way southbound street in Manhattan Beach. It carries approximately 5,500 vehicles per day between Eighth Street and Herondo Street and 9,100 vehicles to the north between Gould Avenue and Longfellow Avenue. South of Second Street, Valley Drive is restricted to one-way southbound traffic flow to Herondo Street. The curb-to-curb width of Valley Drive is 24 feet throughout the City.

Ardmore Avenue - Ardmore Avenue runs from north of the City boundary in Manhattan Beach to the southern City boundary where it terminates. It has one lane in each direction throughout the City and is 24 feet wide curb-to-curb over most of its length. North of Pier Avenue, no parking is allowed on Ardmore Avenue, and two 12-foot travel lanes are provided. South of Pier Avenue, parking is provided on the northbound side of the street and travel lanes are narrowed to substandard widths of 8 to 9 feet. Existing daily traffic volumes on Ardmore range from approximately 3,200 at the south end of the City to 8,500 at the north near Manhattan Beach. Ardmore Avenue and Valley Drive are parallel facilities which are separated by the former Atchison, Topeka and Santa Fe (AT&SF) Railroad right-of-way.

Prospect Avenue - Prospect Avenue runs through the City near the eastern City boundary. The cross-section of Prospect varies from two to four lanes throughout the City, with curb-to-curb widths of 30 to 36 feet at two-lane segments and 64 feet at four-lane segments. It carries an ADT that ranges from 8,800 near Artesia Boulevard to 17,250 south of Aviation Boulevard.

Gould Avenue - Gould Avenue begins at Pacific Coast Highway directly south of Artesia Boulevard and runs westward to 27th Street. The segment of Gould Avenue near Pacific Coast Highway is 80 feet wide curb-to-curb and has two lanes in each direction plus a raised median. Gould Avenue narrows to 46 feet curb-to-curb approximately 600 feet west of Pacific Coast Highway. This segment has one lane each way plus a two-way left-turn lane and curb parking on the south side of the street. South of Ardmore Avenue, Gould Avenue narrows further to 24 feet with one lane in each direction. The ADT on Gould west of Valley Drive is approximately 9,100 and east of Ardmore is approximately 12,900.

Monterey Boulevard/22nd Street - 22nd Street runs from the beach eastward and becomes Monterey Boulevard. Monterey Boulevard runs from 22nd Street where it curves south and continues to the southern City boundary. It is 40 feet wide curb-to-curb and has one lane in each direction plus parking on both sides of the street.

8th Street - 8th Street is classified as a collector street from Pacific Coast Highway to Hermosa Avenue and is a local street throughout the remainder of the City. It has one lane in each direction from Pacific Coast Highway to Hermosa Avenue. From Pacific Coast Highway to Valley Drive, 8th Street is approximately 30 feet wide and parking is allowed partially on the south side of the street. From Ardmore Avenue to Loma Drive, the street narrows to 25 feet curb-to-curb and no parking is allowed on either side of the street. The ADT on 8th Street east of Ardmore Avenue is approximately 5,000 vehicles per day.

5th Street - The segment of 5th Street from Prospect Avenue to Pacific Coast Highway is classified as a collector street and it is a local street throughout the remainder of the City. It is 30 feet wide curb-to-curb and has one lane in each direction plus curbside parking on the north side of the street.

2nd Street - The segment of 2nd Street from Pacific Coast Highway to Hermosa Avenue is classified as a collector street and it is a local street throughout the remainder of its length. It is 30 feet wide curb-to-curb and has two lanes in each direction plus curbside parking on the

north side of the street. The ADT on 2nd Street near Valley Drive is 4,600, while east of Ardmore Avenue the ADT is approximately 3,000.

3.3 ROADWAY SEGMENT CHARACTERISTICS

Table 1 summarizes existing roadway characteristics for every street segment in the City. The segments are classified into east/west and north/south categories. The data items, in order of appearance in the table, are described below.

Segment Length - Length of roadway segment between specified cross streets (to the nearest hundredth of a mile).

Existing Striping/Geometrics - Number of through traffic lanes and presence of raised median or two-way left-turn lane along centerline.

Existing Width - The width of the street segment from curb to curb (in feet). If the width varies, it is shown by a range or the predominant width is listed.

Right-of-Way - The width of the land (right-of-way) owned by the jurisdiction which controls the roadway (i.e., City of Hermosa Beach or Caltrans).

Pavement Type - Asphalt or concrete pavement surface type.

Functional Classification - The roadway classification specified in the previous Circulation Element.

Existing Daily Volume - Actual measured traffic volume on the street segment for an average 24-hour period based on traffic volume counts taken October 1987. Table 2 displays average daily traffic volumes and peak hour volumes for 41 locations in the City. Figure 2 displays daily volumes at key points on arterial and collector streets throughout the City. Figure 3 illustrates daily traffic volume using bandwidths to depict vehicles per day.

Estimated Average Daily Capacity - The theoretical maximum number of vehicles that can use the street segment during one day. The capacity is based upon the roadway type (functional classification), the number of lanes, number of traffic signals per mile, presence of curbside parking, lane width, pavement condition and other factors.

Estimated average daily capacity on arterial streets is illustrated in Figure 4. The figure shows the range of capacities of average 2-, 4-, and 6-lane arterials based upon the level of operation.

3.4 TRAFFIC GROWTH SINCE 1979

For comparison purposes, Table 3 presents historical growth trends for selected streets within the City from 1979 to 1988. Traffic volume information from 1979-80 is limited to a few

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
EAST-WEST STREETS										
Herondo Street	Hermosa Ave./Valley Dr.	0.09	2 lanes	28	30	Asphalt		Arterial		13,000
Artesia Boulevard/ Gould Avenue	Harper Ave./Pacific Coast Hwy.	0.23	4 lanes w/ med.	80	100	Asphalt		Arterial		29,000
	Pacific Coast Hwy./El Oeste Pl.	0.13	4 lanes w/ med.	80	100	Asphalt		Collector		22,000
	El Oeste Pl./Ardmore Ave.	0.17	4 lanes w/ lt	44	100	Asphalt		Collector	12,890	22,000
	Ardmore Ave./Morningside Drive	0.29	2 lanes	30	40	Asphalt		Collector	9,105	15,000
21st Street	Harper Ave./Rhodes St.	0.20	2 lanes	40	60	Asphalt		Local		2,500
	Rhodes St./Pacific Coast Hwy.	0.07	2 lanes	36	60	Asphalt		Local		2,500
	Pacific Coast Hwy./Ardmore Ave.	0.13	2 lanes	30	60	Cement		Local	2,260	2,500
	Valley Dr./Power St.	0.11	2 lanes	24	40	Asphalt		Local		2,500
	Power St./120' W. of Power St.	0.02	2 lanes	20	40	Asphalt		Local		2,500
	Strand/Hermosa Ave.	0.05	walk	17	60	Concrete		Local		N/A
	Hermosa/Manhattan	0.04	2 lanes	30	60	Asphalt		Local		2,500
21st Court	Beach Dr./Hermosa Ave.	0.05	2 lanes	20	20	Asphalt		Local		2,500
Pier Avenue	Pacific Coast Hwy./btwn Ardmore and Valley	0.12	4 lanes	72	100	Cement		Arterial	20,800	29,000
	Btwn Ardmore and Valley/Hermosa Ave.	0.32	4 lanes	80	100	Asphalt		Arterial	12,550	29,000
	Hermosa Ave./the Municipal Pier	0.10	2 lanes	80	100	Asphalt		Arterial	5,350	13,000
Aviation Boulevard	Harper Ave./Pacific Coast Hwy.	0.42	4 lanes	64	80	Asphalt		Arterial	29,450	29,000
Lynden Street	Hermosa Ave./Monterey Bl.	0.10	2 lanes	28	40	Asphalt		Local		2,500
1st Court	Monterey Bl./Palm	0.08	1 lane	18	20	Concrete		Local		800
1st Street	Strand/Hermosa Ave.	0.03	walk	16	60	Concrete		Local		2,500
	Hermosa Ave./Monterey Bl.	0.10	2 lanes	38	60	Asphalt		Local		2,500
	Ardmore/PCH	0.13	2 lanes	24	40	Asphalt		Local		2,500
	PCH/Barney Ct.	0.18	2 lanes	30	60	Concrete		Local		2,500
	Barney Ct./Prospect Ave.	0.13	2 lanes	28	40	Asphalt		Local		2,500
2nd Street	The Strand/Valley Drive	0.25	2 lanes	40	60	Asphalt		Collector	4,600	15,000
	Valley Dr./PCH	0.22	2 lanes	28	40	Asphalt		Local	3,000	2,500
	PCH/Prospect Ave.	0.32	2 lanes	24	40	Asphalt		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
4th Street	Hermosa Ave./Monterey Bl.	0.10	2 lanes	41	60	Asphalt		Local		2,500
	Monterey Bl./Culper St.	0.02	2 lanes	20	30	Asphalt		Local		2,500
	Ardmore Ave./PCH	0.14	2 lanes	28	40	Concrete		Local		2,500
	PCH/Ocean View Ave.	0.05	2 lanes	23	40	Concrete		Local		2,500
	Hopkins/Prospect Ave.	0.07	2 lanes	29	40	Concrete		Local		2,500
	Cochise Ave./Ardmore Ave.	0.03	2 lanes	28	40	Asphalt		Local		2,500
	Strand/Hermosa	0.06	walk	16	60	Concrete		Local		N/A
5th Street	Ardmore Ave./PCH	0.14	2 lanes	27	40	Concrete		Local		2,500
	PCH/Prospect Ave.	0.17	2 lanes	30	60	Concrete		Collector		15,000
	Massey Ave./Reynolds Ln.	0.04	2 lanes	27	40	Asphalt		Local		2,500
	Hermosa Ave./Strand	0.06	2 lanes	16	60	Concrete		Local		2,500
5th Court	Beach Dr./Hermosa Ave.	0.04	1 lane	17	20	Asphalt		Local		2,500
4th Court	Beach Dr./Hermosa Ave.	0.03	1 lane	17	20	Asphalt		Local		2,500
3rd Street	w/o Ardmore deadends	0.05	2 lanes	24	40	Asphalt		Local		2,500
	Ardmore/PCH	0.12	2 lanes	24	40	Asphalt		Local		2,500
	PCH/Prospect Ave.	0.30	2 lanes	28	40	Asphalt		Local		2,500
	Strand/Hermosa	0.05	walk	16	60	Concrete		Local		N/A
3rd Court	Beach Dr./Hermosa Ave.	0.02	2 lanes	19	20	Asphalt		Local		2,500
1st Place	Ardmore Ave./PCH	0.10	2 lanes	24	40	Asphalt		Local		2,500
	Barney Ct./Prospect Ave.	0.14	2 lanes	26	40	Asphalt		Local		2,500
6th Street	Hermosa Ave./Valley Dr.	0.25	2 lanes	40	60	Asphalt		Local	1,020	2,500
	Ardmore Ave./Prospect Ave.	0.11	2 lanes	29	40	Concrete		Local		2,500
	Prospect Ave./Reynolds Ln.	0.15	2 lanes	24	40	Concrete		Local		2,500
	Strand/Hermosa	0.07	walk	16	60	Concrete		Local		N/A
8th Street	Hermosa Ave./Loma Dr.	0.13	2 lanes	40	60	Asphalt		Collector		15,000
	Loma Dr./Valley Dr.	0.11	2 lanes	25	40	Asphalt		Collector	4,550	15,000
	Valley Dr./Ardmore Ave.	0.01	2 lanes	30	60	Asphalt		Collector		15,000
	Ardmore Ave./PCH	0.10	2 lanes	27	40	Asphalt		Collector	4,960	15,000
	PCH/Prospect Ave.	0.19	2 lanes	19	25	Asphalt		Local		2,500
	Propsect Ave./Reynolds Ln.	0.28	2 lanes	25-30	40	Conc.-Asph.		Local		2,500
	Strand/Hermosa Ave.	0.08	walk	17	60	Concrete		Local		N/A

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
10th Street	The Strand/Loma Dr.	0.16	2 lanes	34	60	Asphalt		Local		2,500
	Ardmore Ave./PCH	0.10	2 lanes	29	40	Concrete		Local		2,500
	PCH/Propsect Ave.	0.24	2 lanes	25	40	Asph.-Conc.		Local		2,500
	Propsect Ave./Reynolds Ln.	0.14	2 lanes	25	40	Asphalt		Local		2,500
11th Street	The Strand/Hermosa Ave.	0.07	2 lanes	38	60	Asphalt		Local		2,500
	Monterey/Loma Dr.	0.02	2 lanes	30	60	Asphalt		Local		2,500
	Loma Dr./Valley Dr.	0.12	2 lanes	24	40	Asphalt		Local		2,500
	Ardmore/PCH	0.10	2 lanes	27	40	Asphalt		Local		2,500
	Prospect/Reynolds Ln.	0.10	2 lanes	25	40	Asphalt		Local		2,500
11th Court Drive	Beach Dr./Hermosa Ave.	0.06	1 lane	20	20	Asphalt		Local		800
13th Street	The Strand/Hermosa Ave.	0.08	2 lanes	13-37	60	Asphalt		Local		2,500
	PCH/Ocean Dr.	0.12	2 lanes	24	40	Asphalt		Local		2,500
13th Court Drive	Beach Dr./Hermosa Ave.	0.07	2 lanes	20	20	Asphalt		Local		2,500
11th Place	Bard St./Valley Dr.	0.03	2 lanes	26	60	Asphalt		Local		2,500
	w/o PCH	0.05	2 lanes	39	60	Asphalt		Local		2,500
	e/o Propsect Ave.	0.07	2 lanes	25	40	Asphalt		Local		2,500
23rd Street	The Strand/Hermosa	0.03	2 lanes	16	60	Concrete		Local		2,500
Porter Lane	Morningside Dr./Valley Dr.	0.15	1 lane	15	20	Unimproved		Local		2,500
	Ardmore/Gould Ave.	0.11	2 lanes	23	20-30	Asphalt		Local		2,500
Circle Court	Monterey Bl./Circle Dr.	0.02	1 lane	30	60	Asphalt		Local		2,500
Aubrey Park	Deadends on Aubrey Ct.	0.01	2 lanes	18	25	Asphalt		Local		2,500
Montgomery Dr.	Ocean Dr./Aubrey Ct.	0.05	2 lanes	24	35	Concrete		Local		2,500
Gould Terrace	Ardmore Ave./Gould Ave.	0.17	2 lanes	20	20	Asphalt		Local		2,500
Marlita	s/o La Carlita Place	0.04	2 lanes	24	30	Asphalt		Local		2,500
15th Street	The Strand/Hermosa Ave.	0.09	2 lanes	35	60	Asphalt		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
	PCH/Ocean Dr.	0.12	2 lanes	25	50	Asphalt		Local		2,500
	Prospect Ave./Harper Ave.	0.10	2 lanes	28	40	Asphalt		Local		2,500
16th Street	Hermosa Ave./Loma Dr.	0.10	2 lanes	34	60	Asphalt		Local		2,500
	Ardmore Ave./PCH	0.10	2 lanes	30	40	Asphalt		Local	2,530	2,500
	PCH/Prospect Ave.	0.16	2 lanes	24	40	Concrete		Local		2,500
	Strand/Hermosa Ave.	0.10	walk	16	60	Concrete		Local		N/A
16th Court	Beach Dr./Hermosa Ave.	0.08	2 lanes	16	20	Asphalt		Local		2,500
19th Street	Hermosa Ave./Loma Dr.	0.10	2 lanes	29	60	Asphalt		Local		2,500
	PCH/Rhodes St.	0.05	2 lanes	15	40	Concrete		Local		2,500
	Strand/Hermosa Ave.	0.02	walk	16	60	Concrete		Local		N/A
24th Place	Park Ave./Valley Dr.	0.18	2 lanes	24	50	Asphalt		Local		2,500
	Ardmore Ave./PCH	0.15	2 lanes	26	40	Asphalt		Local		2,500
24th Street	The Strand/Hermosa Ave.	0.01	1 lane	16	60	Concrete		Local		N/A
	Hermosa Ave./Park Ave.	0.14	2 lanes	30	60	Asphalt		Local		2,500
	Park Ave./Valley Dr.	0.02	2 lanes	25	40	Asphalt		Local		2,500
	Ardmore Ave./PCH	0.14	2 lanes	25	40	Asphalt		Local		2,500
	w/o Hillcrest Dr. (cul-de-sac)	0.04	2 lanes	27	40	Asphalt		Local		2,500
	Prospect Ave./Harper Ave.	0.08	2 lanes	25	40	Asphalt		Local		2,500
25th Street	Hermosa Ave./Park Ave.	0.19	2 lanes	30	60	Asphalt		Local		2,500
	Park Ave./Morningside Dr.	0.03	2 lanes	26	60	Asphalt		Local		2,500
	Morningside Dr./Valley Dr.	0.14	2 lanes	24	50	Asphalt		Local		2,500
	Deadends e/o Ardmore Ave.	0.07	2 lanes	19	40	Asphalt		Local		2,500
	Strand/Hermosa Ave.	0.05	walk	16	60	Concrete		Local		N/A
26th Street	Hermosa Ave./Manhattan Ave.	0.04	2 lanes	30	60	Asphalt		Local		2,500
	Manhattan Ave./Morningside Dr.	0.13	2 lanes	25	40	Concrete		Local		2,500
	Strand/Hermosa Ave.	0.03	walk	16	60	Concrete		Local		N/A
15th Place	Mira St./Bonnie Brae	0.07	2 lanes	18	40	Asphalt		Local		2,500
	w/o PCH/between Pier Ave. and 16th St.	0.03	2 lanes	21	40	Asphalt		Local		2,500
15th Court	Beach Dr./Hermosa Ave.	0.08	2 lanes	20	20	Concrete		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
17th Street	PCH/Prospect Ave.	0.13	2 lanes	24	40	Asphalt		Local		2,500
	Deadends e/o Prospect Ave.	0.11	2 lanes	28	40	Asphalt		Local		2,500
	Strand/Hermosa Ave.	0.10	walk	16	60	Concrete		Local		N/A
18th Street	Valley Park Ave./Valley Dr.	0.08	2 lanes	23	40	Asphalt		Local		2,500
	PCH/Prospect Ave.	0.11	2 lanes	30	40	Asphalt		Local		2,500
	Strand/Hermosa Ave.	0.10	walk	16	60	Concrete		Local		N/A
20th Street	Power St./Valley Dr.	0.11	2 lanes	20	30-40	Asphalt		Local		2,500
	PCH/Rhodes St.	0.05	2 lanes	30	40	Concrete		Local		2,500
	Prospect Ave./Harper Ave.	0.11	2 lanes	27	40	Asphalt		Local		2,500
	Strand/Hermosa Ave.	0.10	walk	16	60	Concrete		Local		N/A
22nd Street	The Strand/Hermosa Ave.	0.04	2 lanes	39	80	Asphalt		Local		2,500
	Hermosa Ave./Manhattan Ave	0.10	2 lanes	39	80	Asphalt		Local		2,500
27th Court	Ozone Ct./Morningside Dr.	0.10	2 lanes	13	20	Concrete		Local		2,500
27th Street	Hermosa/Manhattan	0.04	1 lane	25	40	Concrete		Local		2,500
	Greenwich Village/Morningside Dr.	0.12	2 lanes	31	40	Asphalt		Local	6,330	2,500
20th Place	Harper Ave./Prospect Ave.	0.10	2 lanes	25	40	Asphalt		Local		2,500
19th Street	Harper Ave./Prospect Ave.	0.12	2 lanes	25	40	Asphalt		Local		2,500
20th Court	Beach Dr./Hermosa Ave.	0.04	2 lanes	17	20	Asphalt		Local		2,500
19th Court	Beach Dr./Hermosa Ave.	0.07	2 lanes	20	20	Asphalt		Local		2,500
17th Court	Beach Dr./Hermosa Ave.	0.08	2 lanes	17	20	Asphalt		Local		2,500
28th Street	Hermosa Ave./Valley Dr.	0.26	2 lanes	29	50	Asphalt		Local		2,500
29th Street	Hermosa Ave./Valley Dr.	0.26	2 lanes	25	40	Concrete		Local		2,500
29th Court	Palm Dr./Ingleside Dr.	0.23	1 lane	14	15	Asph.-Conc.		Local		2,500
Longfellow Avenue	Hermosa Ave./Valley Dr.	0.28	2 lanes	38	60	Asphalt		Local	2,670	2,500
	Admore Ave./PCH	0.31	2 lanes	32	60	Concrete		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
30th Place	Palm Dr./Valley Dr.	0.26	2 lanes	12	15	Asph.-Conc.		Local		2,500
30th Street	Hermosa Ave./Manhattan	0.12	2 lanes	16	40	Concrete		Local		2,500
	Manhattan/Morningside Dr.	0.05	2 lanes	25	40	Concrete		Local		2,500
	Morningside Dr./Ardmore Ave.	0.13	2 lanes	25	40	Concrete		Local		2,500
	Ardmore Ave./Sepuveda Blvd.	0.30	2 lanes	32	50	Asphalt		Local	730	2,500
Alley n/o 30th St.	Pacific Coast Hwy./ w/o Tennyson Pl.	0.20	1 lane	10	10	Concrete		Local		800
31st Place	Palm Drive/Valley Drive	0.23	1 lane	9	10	Concrete		Local		2,500
31st Street	Hermosa Ave./Manhattan	0.05	2 lanes	25	40	Concrete		Local		2,500
	Manhattan/Valley Dr.	0.23	2 lanes	26	40	Concrete		Local		2,500
32nd Place	Palm Dr./Valley Dr.	0.15	1 lane	9	10	Asph.-Conc.		Local		2,500
33rd Place	Palm Dr./Ingleside Dr.	0.22	2 lanes	14	15	Asph.-Conc.		Local		2,500
33rd Street	Palm Dr./Morningside Dr.	0.14	2 lanes	25	40	Concrete		Local		2,500
	Morningside Dr./Ingleside Dr.	0.08	2 lanes	35	40	Conc.-Asph.		Local		2,500
34th Place	Palm Dr./Highland Ave.	0.09	1 lane	8	10	Asph.-Conc.		Local		2,500
34th Street	Hermosa Ave./Highland Ave.	0.10	2 lanes	25	40	Concrete		Local		2,500
	Highland Ave./Morningside Dr.	0.05	2 lanes	25	40	Concrete		Local		2,500
35th Street	Hermosa Ave./Manhattan Ave.	0.04	2 lanes	28	40	Asphalt		Local		2,500
	Manhattan Ave./Highland Ave.	0.05	2 lanes	25	40	Asphalt		Local		2,500
	Highland Ave./Morningside Dr.	0.06	2 lanes	25	40	Asphalt		Local		2,500
18th Court	Beach Dr./Hermosa Ave.	0.08	2 lanes	17	20	Asphalt		Local		2,500
14th Court	Beach Dr./Hermosa Ave.	0.08	1 lane	13	20	Asphalt		Local		2,500
14th Street	Hermosa Ave./Manhattan Ave.	0.04	2 lanes	25	60	Asphalt		Local		2,500
	PCH/Prospect Ave.	0.24	2 lanes	25	40	Asphalt		Local		2,500
	Prospect Ave./East Dead End	0.08	2 lanes	25	40	Asphalt		Local		2,500
	Strand/Hermosa Ave.	0.02	2 lanes	39	60	Asphalt		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
Alley Adj to Pier	Loma Dr./Bard St.	0.10	2 lanes	20	20	Asphalt		Local		2,500
11th Court	Beach Dr./Hermosa Ave.	0.06	1 lane	17	20	Concrete		Local		2,500
10th Court	Beach Dr./Hermosa Ave.	0.06	2 lanes	17	20	Asphalt		Local		2,500
9th Court	Beach Dr./Hermosa Ave.	0.06	2 lanes	17	20	Asphalt		Local		2,500
9th Street	Ardmore Ave./Prospect Ave.	0.33	2 lanes	24	40	Asph.-Conc.		Local		2,500
	Prospect Ave./Reynolds Ln.	0.18	2 lanes	27	40	Conc.-Asph.		Local		2,500
	Strand/Hermosa	0.08	walk	16	60	Conc.-Asph.		Local		N/A
8th Court	Beach Dr./Hermosa Ave.	0.05	2 lanes	18	20	Asphalt		Local		2,500
8th Place	Ardmore Ave./Prospect Ave.	0.31	2 lanes	24	40	Concrete		Local		2,500
7th Street	e/o Ardmore Ave.	0.05	2 lanes	25	40	Asphalt		Local		2,500
	PCH/Prospect Ave.	0.19	2 lanes	24	40-60	Asphalt		Local		2,500
	Prospect Ave./Reynolds Ln.	0.27	2 lanes	26	40	Concrete		Local		2,500
	Strand/Hermosa	0.07	walk	16	60	Conc.-Asph.		Local		N/A
7th Court	Beach Dr./Hermosa Ave.	0.05	2 lanes	20	20	Asphalt		Local		2,500
6th Court	Beach Dr./Hermosa Ave.	0.05	2 lanes	20	20	Asphalt		Local		2,500
7th Place	Prospect Ave./Reynolds Ln.	0.15	2 lanes	27	40	Concrete		Local		2,500
28th Court	Palm Dr./Morningside Dr.	0.10	1 lane	12	15	Concrete		Local		2,500
	Morningside Dr./Deadend	0.02	1 lane	11	15	Concrete		Local		2,500
29th Court	Palm Dr./Ingleside Dr.	0.23	1 lane	12	15	Asphalt		Local		2,500
35th Place	Palm Dr./Manhattan Ave.	0.02	1 lane	9	10	Asphalt		Local		2,500
Neptune Ave.	Strand/Manhattan Ave.	0.05	1 lane	15	25	Concrete		Local		2,500
Boundary Place	Ardmore Ave./Pacific Coast Hwy.	0.31	2 lanes	20	20	Asphalt		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
NORTH-SOUTH STREETS										
Harper Avenue	Artesia Blvd./Ormond	0.35	1 lane	15	20	Asphalt		Local		2,500
	Aveiation/to s/o 11th Pl.	0.13	2 lanes	24	40	Asphalt		Local		2,500
Vista Drive	33rd Pl./33rd St.	0.02	1 lane	12	20	Concrete		Local		800
Crest Drive	33rd St./35th St.	0.05	2 lanes	20	20	Concrete		Local		2,500
Bayview Drive	34th St./35th St.	0.02	1 lanes	12	20	Concrete		Local		800
El Oeste Street	n/o Gould Ave.	0.10	2 lanes	30	40	Asphalt		Local		2,500
Ava Avenue	s/o 21st St.	0.10	2 lanes	25	40	Concrete		Local		2,500
Springfield Avenue	s/o 21st St.	0.11	2 lanes	25	40	Concrete		Local		2,500
Prospect Avenue	Artesia Blvd./21st St.	0.11	4 lanes	64	80	Asphalt		Collector	8,800	22,000
	21st St./Aviation Blvd.	0.55	2 lanes	36	80	Asphalt		Collector		15,000
	Aviation Blvd./Anita St.	0.66	2 lanes	30	80	Cement		Collector	17,250	15,000
Alley w/o Prospect Av	6th St to north deadend	0.03	1 lane	10	10	Concrete		Local		800
Pacific Coast Highway (State Route 1)	N. of Artesia Blvd./Artesia Blvd.	n/a	3 lanes nb,2 lanes sb w/med	74	90	Asphalt		Arterial	N/A	36,000
	Artesia Blvd./300' S. of Artesia Blvd.	0.06	4 lanes w/med	74	90	Asphalt		Arterial		26,000
	300' S. of Artesia Blvd./Pier Ave.	0.51	3 lanes nb,2 lanes sb w/lt	74	90	Asphalt		Arterial	50,000	36,000
	Pier Ave./Herondo St.	0.78	3 lanes nb,2 lanes sb	74	90	Asphalt		Arterial	46,000	36,000
Alley w/o PCH	30th St./Gould Ave.	0.18	1 lane	10	10	Concrete		Local		800
Alley e/o PCH	19th St./20th St.	0.02	1 lane	10	10	Concrete		Local		800
Alley e/o PCH	20th St./21st St.	0.04	1 lane	10	10	Concrete		Local		800
Alley e/o PCH	4th St./5th St.	0.06	1 lane	10	10	Concrete		Local		800
Alley w/o PCH	North and South of 11th St.	0.05	1 lane	10	10	Concrete		Local		800
Alley w/o PCH	6th Street to deadend	0.02	1 lane	10	10	Concrete		Local		800
Ardmore Avenue	Boundary Pl./Gould Ave.	0.21	2 lanes	24	30	Asphalt		Collector	8,500	15,000
	Gould Ave./Pier Ave.	0.74	2 lanes	24	30	Asphalt		Collector	7,250	15,000

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
	Pier Ave./8th St.	0.30	2 lanes	24	30	Asphalt		Local	5,150	15,000
	8th St./end near 1st St.	0.44	2 lanes	24	40	Asphalt		Local	3,200	15,000
Valley Drive	Longfellow Ave./Gould Ave.	0.23	2 lanes	24	40	Asphalt		Local	9,100	15,000
	Gould Ave./Pier Ave.	0.74	2 lanes	24	40	Asphalt		Local	6,400	15,000
	Pier Ave./8th St.	0.30	2 lanes	24	30	Asphalt		Collector	6,800	15,000
	8th St./Herondo St.	0.47	2 lanes	24	30	Asphalt		Collector	5,550	15,000
22nd Street/ Monterey Boulevard	Park Ave./Pier Ave.	0.47	2 lanes	40	80	Asphalt		Collector		15,000
	Pier Ave./Herondo St.	0.73	2 lanes	40	80	Asphalt		Local	7,200	15,000
Manhattan Avenue	1st St. (in Manhattan Beach)/34th St.	0.08	2 lanes	48	80	Asphalt		Collector		15,000
	34th St./27th St.	0.27	2 lanes	30	40	Asphalt		Collector	13,200	15,000
	27th St./Pier Ave.	0.76	2 lanes	40	60	Asphalt		Local	5,950	15,000
	Pier Ave./1st. St.	0.61	2 lanes	40	60	Asphalt		Local	1,300	15,000
Hermosa Avenue	35th St./27th St.	0.36	2 lanes w/med	48	90	Asphalt		Local	3,700	2,500
	27th St./14th St.	0.66	4 lanes w/med	84	100	Asphalt		Collector	13,200	22,000
	14th St./10th St.	0.21	4 lanes w/med	80	100	Asphalt		Arterial		29,000
	10th St./Herondo St.	0.57	4 lanes w/med	84	100	Asphalt		Arterial	17,550	29,000
Ozone Court	27th St./Loma Dr.	0.16	1 lane	18	20	Asph.-Conc.		Local		2,500
Palm Drive	Herondo St./1st St.	0.07	2 lanes	18	20	Concrete		Local (alley)		2,500
	1st St./19th St.	0.43	2 lanes	18	20	Asphalt		Local		2,500
	19th St./21st St.	0.13	2 lanes	18	40	Asphalt		Local		2,500
	21st St./27th St.	0.26	2 lanes	20	20	Asphalt		Local		2,500
	27th St./Neptune Ave.	0.30	1 lane	18	20	Asphalt		Local		2,500
Sunset Drive	6th St./Pier Ave.	0.37	1 lane	18	20	Asphalt		Local		2,500
Circle Drive	Manhattan Ave./Manhattan Ave.	0.05	2 lanes	20	60	Asphalt		Local		2,500
Morningside Dr.	25th St./Porter Ln.	0.07	2 lanes	23	40	Asphalt		Local		2,500
	26th St./33rd St.	0.25	2 lanes	25	40	Conc.-Asph.		Local	1,640	2,500
Ingleside Dr.	28th St./33rd St.	0.13	2 lanes	23	40	Concrete		Local		2,500
Highland Ave.	Longfellow Ave./35th St.	0.07	2 lanes	30	60	Asphalt		Local	9,140	15,000

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
Oceanview Ave.	3rd St./5th St.	0.10	2 lanes	20-25	40	Concrete		Local		2,500
Hopkins Avenue	3rd St./5th St.	0.09	2 lanes	28	40	Asphalt		Local		2,500
Meyer Court	s/o and n/o 1st St.	0.03	2 lanes	29	40	Asphalt		Local		2,500
Barney Court	1st St./1st Pl.	0.04	2 lanes	27	40	Asphalt		Local		2,500
Gravely Court	s/o 6th St.	0.01	1 lane	20		Concrete		Local		2,500
Pine Street	5th St./6th St.	0.05	2 lanes	20	40	Asphalt		Local		2,500
Ocean Drive	8th St./8th Pl.	0.03	2 lanes	23	40	Concrete		Local		2,500
	8th Pl./Aviation Bl.	0.09	2 lanes	24	40	Asphalt		Local		2,500
	Aviation Bl./14th St.	0.13	2 lanes	19	20	Asphalt		Local		2,500
	14th St./15th Pl.	0.04	2 lanes	19	20-30	Asphalt		Local		2,500
Hermosa View Drive	s/o 30th St.	0.06	2 lanes	32	40	Asphalt		Local		2,500
Braeholm Place	s/o 30th St.	0.06	2 lanes	22	40	Asphalt		Local		2,500
Amdy Place	s/o 30th St.	0.06	2 lanes	20	40	Asphalt		Local		2,500
Tennyson Place	Boundary Av./s/o 30th St.	0.17	2 lanes	20-30	40-50	Asphalt		Local		2,500
Alley w/o Tennyson Pl	Longfellow/30th St.	0.04	1 lane	10	10	Concrete		Local		800
La Carlita Place	s/o 30th St.	0.04	2 lanes	28	40	Asphalt		Local		2,500
Beach Drive	Hermosa/24th St.	1.20	1 lane	8-12	10-20	Asphalt		Local		2,500
Alley e/o Beach Dr.	21st St./22nd St.	0.01	1 lane	10	10	Concrete		Local		800
Culper Court	2nd St./4th St.	0.10	1 lane	18	30	Asphalt		Local		2,500
Bayview Drive	1st St./19th St.	0.87	1 lane	15	20	Asphalt		Local		2,500
	19th St./Circle Dr.	0.01	2 lane	20	40	Asphalt		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
Loma Drive	s/o 6th St. to Pier Ave.	0.42	2 lanes	27	40	Asphalt		Local		2,500
	Pier Ave. to n/o 16th St.	0.02	2 lanes	25	35	Asphalt		Local		2,500
	s/o 19th St. to Palm Dr.	0.32	2 lanes	18	20-35	Asphalt		Local		2,500
Cypress Avenue	s/o 6th St./n/o 8th St.	0.16	2 lanes	26	40	Asphalt		Local		2,500
	11th St./Pier Ave.	0.13	2 lanes	25	30-40	Asphalt		Local		2,500
Bard Street	Alley/11th Pl.	0.08	2 lanes	44	60	Asphalt		Local		2,500
	n/o 8th St.	0.05	1 lane	23	40	Asphalt		Local		2,500
Hill Street	Ardmore Ave./Second St.	0.07	2 lanes	25	40	Concrete		Local		2,500
Cochise Avenue	w/o 4th St.	0.02	1 lane	20	30	Asphalt		Local		2,500
Valley Park Avenue	s/o 20th St.	0.14	2 lanes	25	40	Asphalt		Local		2,500
Power Street	24th St./20th St.	0.13	2 lanes	25	40	Asphalt		Local		2,500
Park Avenue	25th St. to Monterey Bl.	0.12	2 lanes	30	60	Asphalt		Local		2,500
Silverstrand Avenue	24th St./26th St.	0.11	2 lanes	30	60	Asphalt		Local		2,500
Myrtle Avenue	24th St./26th St.	0.10	2 lanes	28	60	Asphalt		Local		2,500
Gentry Street	Prospect Ave./6th St.	0.05	4 lanes	28	30-40	Concrete		Local		2,500
	3rd St./Prospect Ave.	0.08	4 lanes	28	40	Concrete		Local		2,500
Hollowell Avenue	Prospect Ave./7th Pl.	0.13	2 lanes	26	40	Concrete		Local		2,500
	Prospect Ave./3rd St.	0.03	2 lanes	26	40	Concrete		Local		2,500
	3rd St./2nd St.	0.03	2 lanes	28	40	Concrete		Local		2,500
Massey Avenue	Prospect Ave./5th St.	0.08	2 lanes	27	40	Asphalt		Local		2,500
Owosso Avenue	9th St./Aviation Bl.	0.06	2 lanes	25	40	Concrete		Local		2,500
	Aviation Bl./14th St.	0.11	2 lanes	25	60	Asphalt		Local		2,500
Corona Street	Aviation Bl./Prospect Ave.	0.12	2 lanes	25	40	Asphalt		Local		2,500
Bonnie Brae Street	Aviation Bl./16th St.	0.16	2 lanes	24	40	Asphalt		Local		2,500

Table 1

CITY OF HERMOSA BEACH CIRCULATION ELEMENT
EXISTING ROADWAY SYSTEM CHARACTERISTICS

ROADWAY	FROM/TO	LENGTH (miles)	EXISTING STRIPING/ GEOMETRICS	EXISTING WIDTH (feet)	RIGHT-OF-WAY WIDTH (feet)	PAVEMENT TYPE	PAVEMENT CONDITION *	EXISTING FUNCTIONAL CLASSIFICATION	EXISTING DAILY VOLUME	ESTIMATED AVG. DAILY CAPACITY*
Campana Street	Bonnie Brae St./Prospect Ave.	0.10	2 lanes	30	40	Asphalt		Local		2,500
Mira Street	15th Pl./16th St.	0.06	2 lanes	19	40	Asphalt		Local		2,500
Raymond Avenue	16th St./17th St.	0.05	2 lanes	25	40	Asphalt		Local		2,500
Rhodes Street	18th St./21st St.	0.17	2 lanes	20	40	Asphalt		Local		2,500
	n/o 21st St.	0.05	2 lanes	20	20	Asphalt		Local		2,500
Borden Avenue	n/o 21st St.	0.05	2 lanes	30	40	Asphalt		Local		2,500
Hillcrest Drive	18th St./21st St.	0.18	2 lanes	25	40	Asphalt		Local		2,500
	21st St/24th St.	0.03	2 lanes	28		Asphalt		Local		2,500
Aubrey Court	Aviation Bl./Aubrey Pk.	0.06	2 lanes	18	20	Asphalt		Local		2,500
Golden Avenue	n/o 15th St.	0.10	2 lanes	28	40	Concrete		Local		2,500
	n/o and s/o 17th St.	0.06	2 lanes	25	40	Asphalt		Local		2,500
Silver Street	n/o 15th St.	0.07	2 lanes	28	40	Concrete		Local		2,500

NOTES: N/A - Not Applicable (outside City boundary)

* To be provided by the City

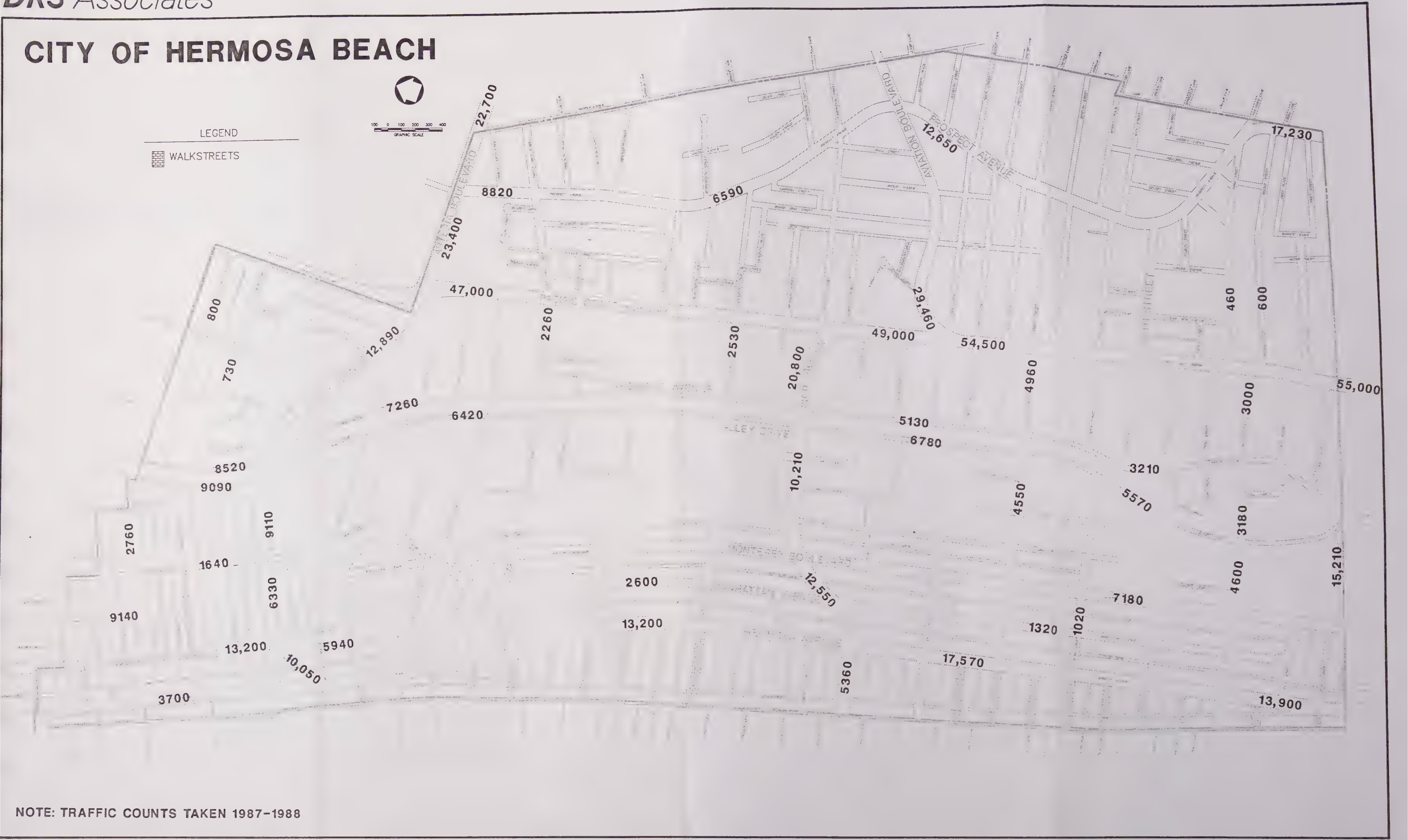
** Capacity figure represents average daily capacity and is based upon facility type and number of lanes

Table 2
Average Daily Traffic and Peak Hour Volumes

Street	Segment Location	Average Daily Traffic Volume	Peak Hour[1] Traffic Volume
2nd St.	W/O Valley	4,600	380
2nd St.	E/O Ardmore	3,000	230
2nd St.	W/O Hill St.	3,180	250
6th St.	E/O Bay View Dr.	1,020	90
8th St.	E/O Ardmore	4,960	360
8th St.	E/O Cypress	4,550	375
16th St.	Ardmore-PCH	2,530	220
21st St.	PCH-Springfield	2,260	230
27th St.	E/O Manhattan Ave.	6,330	520
30th St.	W/O Tennyson	730	60
Ardmore Ave.	4th St.-5th St.	3,210	350
Ardmore Ave.	10th St.-11th St.	5,130	590
Ardmore Ave.	N/O 25th St.	7,260	730
Ardmore Ave.	N/O Gould	8,520	890
Aviation Blvd.	E/O PCH	29,460	1,870
Gould Ave.	W/O Valley	9,105	670
Gould Ave.	E/O Ardmore	12,890	900
Greenwich Village	W/O Manhattan Ave.	10,050	480
Hermosa Ave.	7th St.-8th St.	17,570	1,200
Hermosa Ave.	S/O 19th St.	13,200	1,160
Hermosa Ave.	N/O 31st St.	3,700	400
Herondo St.	W/O Valley	15,210	1,200
Highland Ave.	N/O Longfellow	9,140	990
Longfellow	E/O Morningside	2,760	230
Longfellow	W/O PCH	802	90
Manhattan Ave.	S/O 8th St.	1,320	130
Manhattan Ave.	S/O 19th St.	2,600	230
Manhattan Ave.	at 26th St.	5,940	530
Manhattan Ave.	27 St.-28th St.	13,200	1,160
Monterey	N/O 4th St.	7,180	690
Morningside	N/O 29th St.	1,640	160
Pier Ave.	Bard-Cypress	10,210	750
Pier Ave.	W/O PCH	20,800	1,440
Pier Ave.	W/O Hermosa Ave.	5,360	470
Pier Ave.	E/O Manhattan Ave.	12,550	890
Prospect Ave.	S/O 2nd St.	17,230	1,930
Prospect Ave.	N/O 21st St.	8,820	950
Valley Dr.	4th St.-5th St.	5,570	640
Valley Dr.	10th St.-11th St.	6,780	650
Valley Dr.	24th St.-25th St.	6,420	410
Valley Dr.	N/O Gould	9,090	720

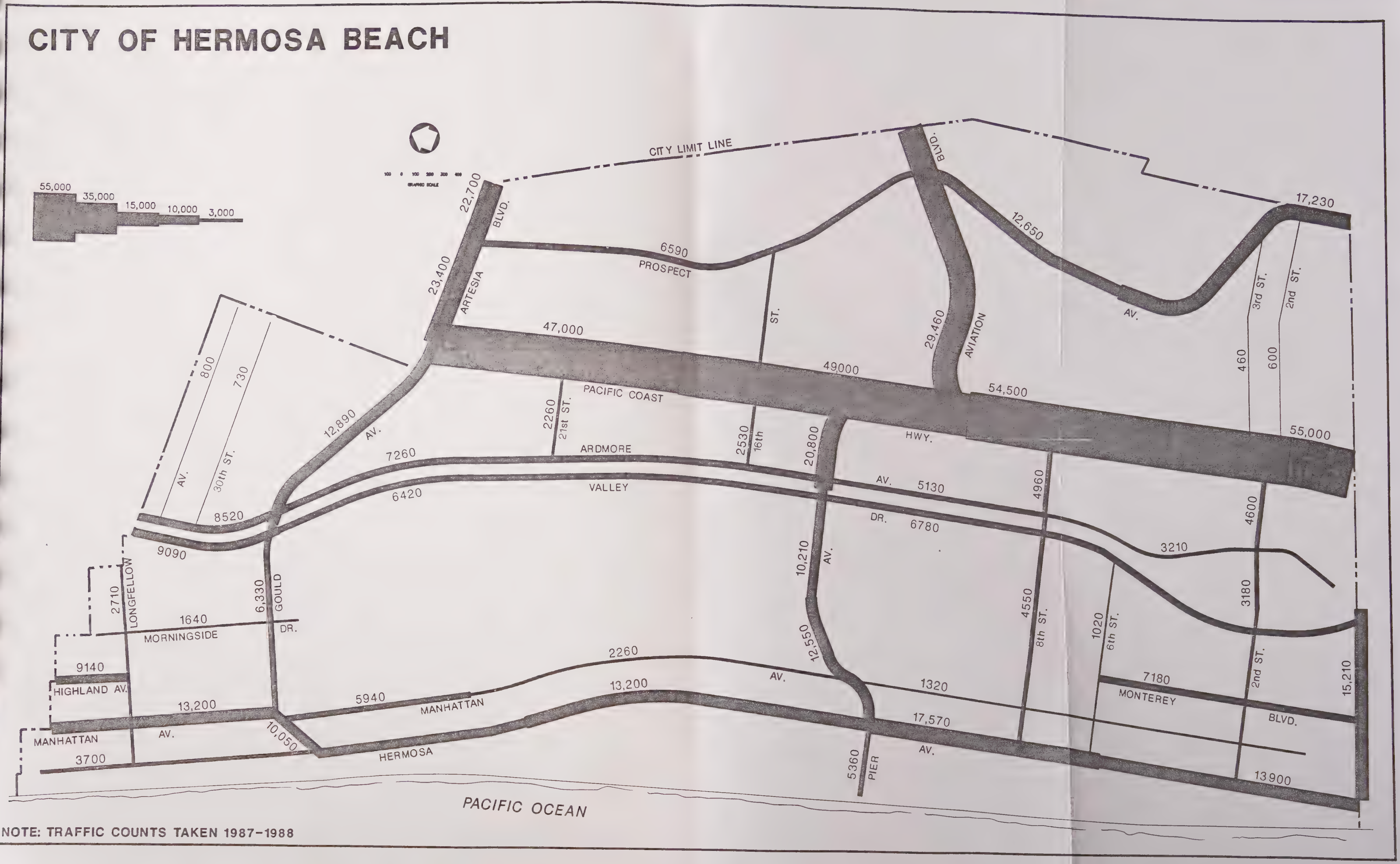
---

[1] Highest single hourly traffic volume; peak hour varies by location but generally falls within the 7:00 to 9:00 AM or 4:00 to 6:00 PM peak traffic periods.



NOTE: TRAFFIC COUNTS TAKEN 1987-1988

Figure 2
AVERAGE DAILY TRAFFIC VOLUMES



NOTE: TRAFFIC COUNTS TAKEN 1987-1988

Figure 3
EXISTING DAILY TRAFFIC VOLUMES

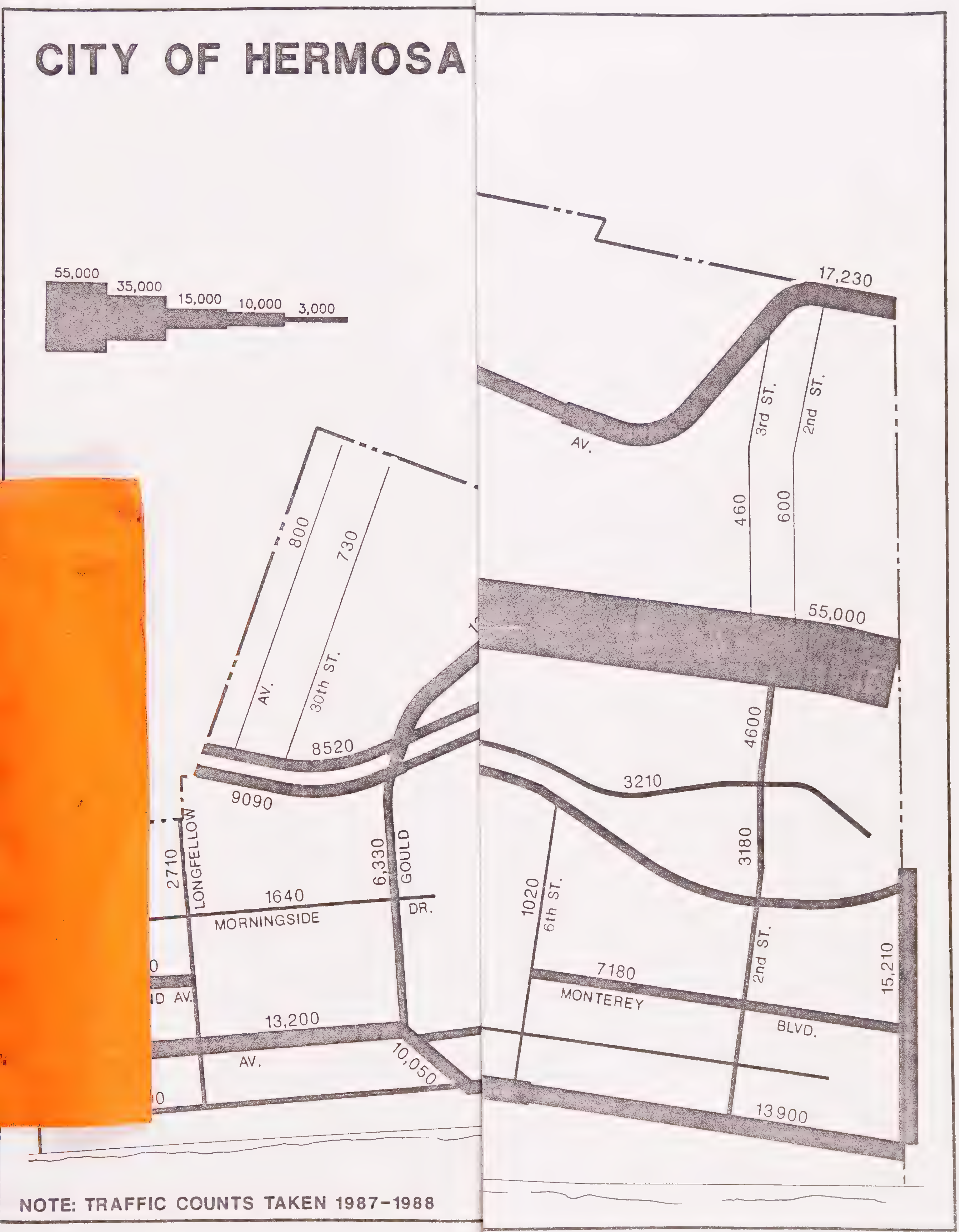


Figure 3
EXISTING DAILY TRAFFIC VOLUMES

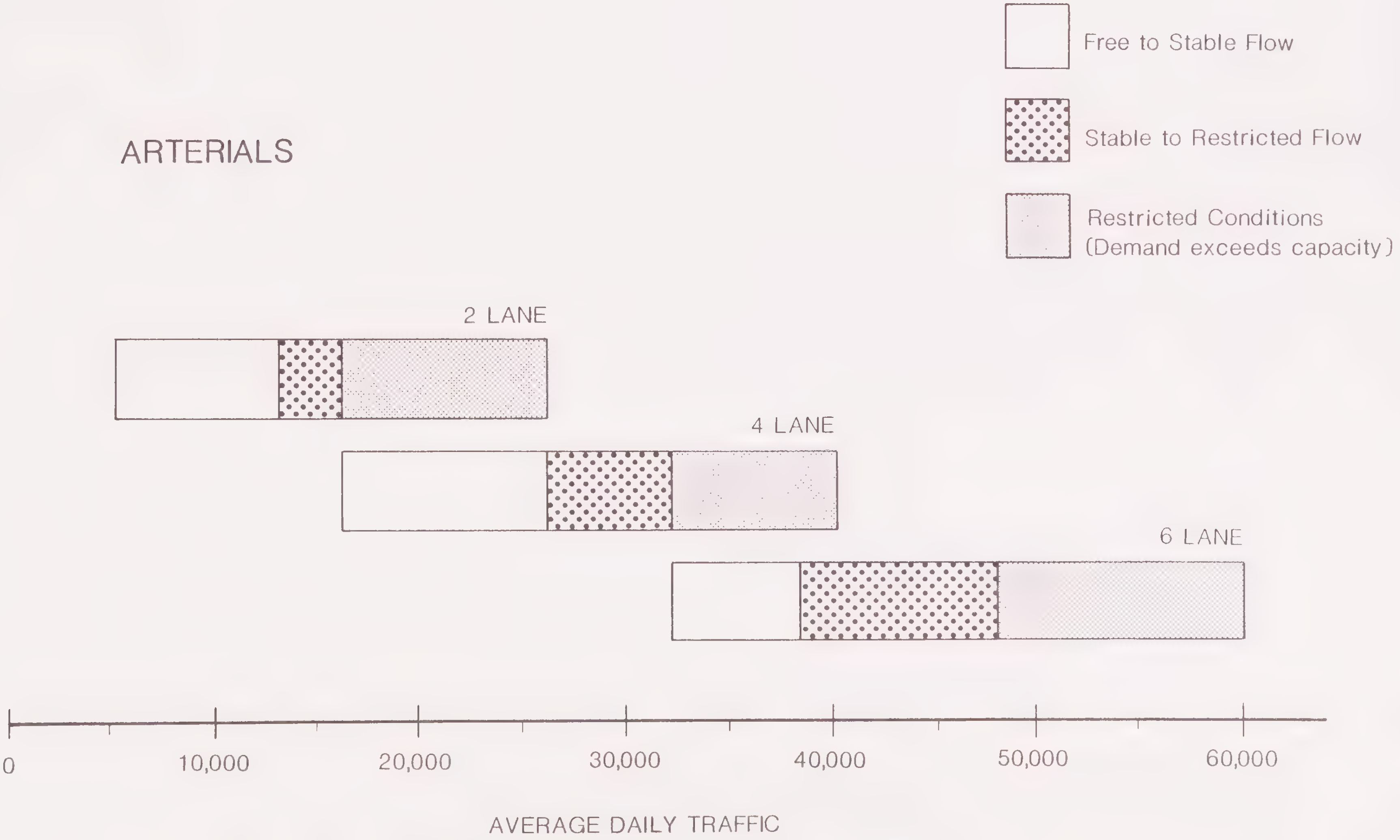


Figure 4
ROADWAY CAPACITY RANGES FOR VARYING LEVELS OF OPERATION

Table 3

Traffic Volume Growth Rates on Selected Streets since 1979

Street	Location	Previous ADT Count 79 - 80	Existing ADT Count	Total Percent Growth	Annual[1] Percent Growth
Manhattan Ave.	27th - 28th	11,720	13,200	13%	1.4%
Greenwich Village	W/O Manhattan	7,290	10,050	38%	4.2%
Monterey Blvd.	N/O 4th St.	3,280	7,180	119%	13.2%
8th St.	E/O Cypress	4,150	4,550	10%	1.2%
Valley Dr.	4th - 5th	5,190	5,570	7%	1.0%
Valley Dr.	N/O Gould	6,540	9,090	39%	4.3%
Aviation Blvd.	E/O PCH	23,270	29,460	27%	3.0%
Ardmore Ave.	N/O 25th St.	4,130	7,260	76%	8.4%
Pier Ave.	W/O PCH	13,150	20,800	58%	.5%
8th St.	E/O Ardmore	3,770	4,960	32%	.5%
2nd St.	W/O Valley	2,990	4,600	54%	.0%
2nd St.	W/O Hill	3,140	3,180	1%	<1.0%
Highland Ave.	N/O Longfellow	6,860	9,140	33%	3.7%

---

[1] Annual percent growth calculated as average over nine years.

facilities. The comparison, therefore, gives only a general indication of growth trends rather than a complete summary of changes over the past decade. The comparison indicates that growth on City streets over the past decade has varied widely from facility to facility. The annual growth rate on streets in the comparison ranges from less than one percent to 13 percent. The average annual growth rate was three to four percent but it can be expected to decrease since the South Bay area has become more fully built out.

3.5 INTERSECTION OPERATING CONDITIONS

The function of a traffic signal at the intersection of two streets is to assign right-of-way to the traffic on each of the intersecting streets. The capacity of each street is reduced at a signal because traffic on that street may be delayed while traffic on the intersecting street is allowed to flow. Therefore, signalized intersections are generally the most critical element affecting a roadway system's capacity. The most critical time period occurs when traffic flow reaches peak volume. This generally happens during the morning and evening commute periods of 7:00-9:00 AM and 4:00-7:00 PM. Much of the analysis in this Circulation Element is therefore based on peak hour traffic conditions.

Signalized Intersections

Operating conditions have been analyzed at 10 key signalized intersections in Hermosa Beach plus the intersection of Pacific Coast Highway/Herondo Street which is located immediately south of the City. This location is included because operational problems at the intersection impact traffic flow within the City. Traffic volumes at each intersection were collected during typical AM and PM peak traffic periods. Morning peak hour counts were taken between 7:00 and 9:00 AM on a typical weekday during October 1987 and evening peak hour counts were taken between 4:00 and 6:00 PM during the same month. The measured volume was then compared to estimated capacity to determine the volume/capacity (V/C) ratio. Based on the volume/capacity ratio, each intersection is described by a level of service (LOS).

The level of service concept is explained in Table 4. Level of service D is typically the lowest acceptable LOS in an urban area.

Table 5 displays the results of the level of service analysis for the 11 signalized intersections. Figure 5 displays existing intersection volume/capacity ratios and level of service. During the AM peak period, two signalized intersections in the City operate at level of service E or F and experience very poor operating conditions and significant delay. The two intersections are both along Pacific Coast Highway:

- Pacific Coast Highway/Aviation Boulevard
- Pacific Coast Highway/Herondo Street

The remaining nine signalized intersections are all operating at acceptable levels of service during the morning peak period.

Table 4
Intersection Level of Service Interpretation

		Delay Range	
Volume to Level of Service	Description	(Sec. per Vehicle)	Capacity Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	5	0-.59
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	5.1-15.0	.60-.69
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	15.1-25.0	.70-.79
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	25.1-40.0	.80-.89
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	40.1-60.0	.90-1.00
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	>60	Over 1.00

Source: Based on National Academy of Sciences, *Highway Capacity Manual*, 1965 and 1985.

Table 5
AM and PM Peak Hour Level of Service at Signalized Intersections

	AM Peak Hour		PM Peak Hour	
Intersection	Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service
Pacific Coast Hwy./Artesia Blvd.	0.79	C	1.00	F
Prospect Ave./Artesia Blvd.	0.46	A	0.79	C
Pacific Coast Hwy./21st St.	0.63	B	0.80	D
Hermosa Ave./14th St.	0.22	A	0.27	A
Hermosa Ave./13th St.	0.21	A	0.29	A
Hermosa Ave./Pier Ave.	0.62	B	0.51	A
Pacific Coast Hwy./Aviation Blvd.	1.00	F	1.00	F
Pacific Coast Hwy./Eighth St.	0.71	C	0.98	E
Pacific Coast Hwy./Second St.	0.74	C	0.93	E
Hermosa Ave./Herondo St.	0.33	A	0.36	A
Pacific Coast Hwy./Herondo St.	0.98	E	0.89	D

Note: Capacity calculations based on National Academy of Sciences, *Highway Capacity Manual*, 1965 and NCHRP Circular 212.

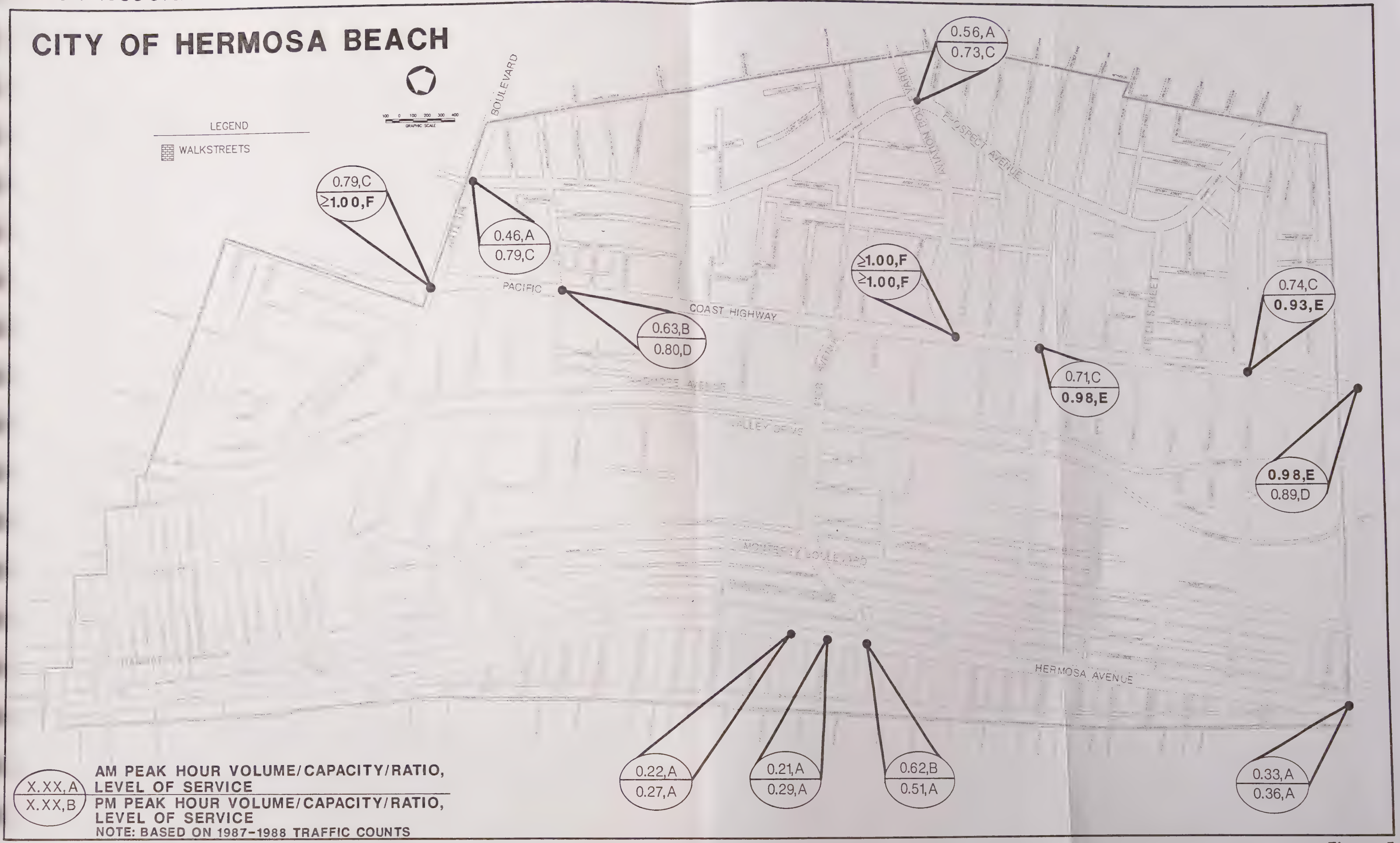


Figure 5
SIGNALIZED INTERSECTION LEVEL OF SERVICE

During the PM peak period, four intersections along Pacific Coast Highway are operating at LOS E or F and two are at level of service D. Those four intersections operating at LOS E or F during the PM peak period are:

- Pacific Coast Highway/Artesia Boulevard (LOS F)
- Pacific Coast Highway/Aviation Boulevard (LOS F)
- Pacific Coast Highway/Eighth Street (LOS E)
- Pacific Coast Highway/Second Street (LOS E)

Two additional signalized intersections, Pacific Coast Highway/21st Street and Pacific Coast Highway/Herondo Street are operating at level of service D during the PM peak period. These intersections are experiencing poor operating conditions. All other signalized intersections are operating at level of service A, B or C with good to excellent operating conditions during the afternoon peak hour.

Unsignalized Intersections

Fourteen stop sign controlled intersections were also chosen for analysis. All 14 intersections are controlled by a stop sign on each approach (i.e., three stop signs at "T" type intersections with three approaches and four stop signs at standard four approach intersections). The current state of the art methodology related to evaluation of unsignalized intersections does not result in determination of a precise level of service for intersections controlled by stop signs on all approaches. However, it can be determined whether the traffic volume is under or over the estimated total design capacity of the intersection.

Stop sign controlled intersections with traffic volumes equal to design capacity are operating at approximate level of service "C" conditions (stable traffic flow, low to moderate motorist delay). Traffic volumes at or below design capacity are desirable and provide the best operating conditions. Although it is possible to experience volumes that exceed design capacity, operating conditions worsen as traffic increases. At intersections with volumes exceeding the design capacity, motorists experience greater delays and longer vehicle queues on each approach.

Table 6 shows approximate level of service "C" capacity of four-way stop controlled intersections. As shown in the table, capacity is affected by the number lanes on each approach and by the percent of traffic on each street (shown in column labelled "Demand Split"). If the traffic is evenly balanced on each street, more vehicles can be accommodated by the stop sign. The peak hour volume at each intersection is measured against the values shown in Table 6 to determine whether the intersection is below, at or above design capacity.

Tables 7 and 8 indicate whether the peak hour traffic volume is below, at or above the design capacity at each of the 14 unsignalized intersections for the AM and PM peak periods, respectively. As shown in Table 7, all 14 intersections currently experience traffic volumes below the intersection design capacity during the AM peak hour. The analysis indicates that all unsignalized intersections are currently operating at level of service "C" or better during the morning peak, and therefore experience no significant congestion.

Table 6
Approximate Level of Service "C" Design Capacity of Four-way Stop-controlled Intersections (Vehicles per Hour)

	Number of Lanes		
Demand Split (Percent)	2 x 2	2 x 4	4 x 4
50/50	1200	1800	2200
55/45	1140	1720	2070
60/40	1080	1660	1970
65/35	1010	1630	1880
70/30	960	1610	1820

Note: Capacity based on National Academy of Sciences, *Highway Capacity Manual*, 1965 and 1985.

Table 7
Unsignalized Intersection
AM Peak Hour Capacity Analysis

	AM Peak Hour Traffic Volume		
Intersection	Below Design Capacity	At Design Capacity	Exceeds Design Capacity
Manhattan Avenue/27th Street		X	
Valley Drive/Gould Avenue	X		
Ardmore Avenue/Gould Avenue		X	
Ardmore Avenue/21st Street	X		
Manhattan Avenue/16th Street		X	
Monterey Boulevard/Pier Avenue		X	
Valley Drive/Pier Avenue	X		
Ardmore Avenue/Pier Avenue		X	
Hermosa Avenue/8th Street	X		
Valley Drive/8th Street	X		
Ardmore Avenue/8th Street	X		
Valley Drive/2nd Street	X		
Ardmore Avenue/2nd Street	X		
Valley Drive/Herondo Street	X		

Table 8
Unsignalized Intersection
PM Peak Hour Capacity Analysis

Intersection	PM Peak Hour Traffic Volume		
	Below Design Capacity	At Design Capacity	Exceeds Design Capacity
Manhattan Avenue/27th Street			X
Valley Drive/Gould Avenue			X
Ardmore Avenue/Gould Avenue			X
Ardmore Avenue/21st Street			X
Manhattan Avenue/16th Street		X	
Monterey Boulevard/Pier Avenue		X	
Valley Drive/Pier Avenue		X	
Ardmore Avenue/Pier Avenue			X
Hermosa Avenue/8th Street			X
Valley Drive/8th Street	X		
Ardmore Avenue/8th Street	X		
Valley Drive/2nd Street	X		
Ardmore Avenue/2nd Street	X		
Valley Drive/Herondo Street	X		

During the PM peak hour, the analysis indicates that operating conditions at several of the 14 unsignalized intersections worsen. Seven intersections experience traffic volumes below the design capacity, one is at capacity and six exceed design capacity. Motorist delay and vehicle queues are increased at the six intersections that currently experience traffic volumes exceeding design capacity.

A more detailed study, known as a "signal warrant analysis" is conducted when traffic volumes at an unsignalized intersection become very high or operating conditions deteriorate to unacceptable levels. The warrant analysis is used as one tool to determine whether the intersection should be considered for signalization.

3.6 EXISTING THROUGH TRAFFIC AND RESIDENTIAL INTRUSION

Traffic on streets in Hermosa Beach consists of motorists who live, work and shop in the City plus motorists who are passing through the City but do not stop for any reason. Many of those motorists are commuters who live south of Hermosa Beach and are employed at job sites north of the City. Traffic volumes on Pacific Coast Highway reflect the heavy commuter travel which occurs in the City. During the morning peak hour, northbound volumes are more than double southbound volumes, while in the evening peak hour southbound volumes are about 1.5 times greater than northbound volumes.

Besides heavy commuter traffic volumes on PCH, problems of commuter traffic intrusion have been identified by residents on other streets in the City. The streets primarily impacted by commuter related through traffic are those streets parallel to PCH (north/south oriented collector and arterials) which absorb some of the spillover traffic as well as some local street.

The traffic capacity of residential streets is not as clearly definable as capacity of arterial or collector streets. For this reason, capacity on local streets is generally defined as "environmental capacity". Environmental capacity for a given street is the maximum volume which can be achieved without interfering with the normal patterns of life of residents along the street. The environmental capacity differs from area to area depending upon such factors as residential density, neighborhood character and resident's perceptions. Even where relatively high volumes on residential streets are not perceived as unacceptable, however, daily traffic volume should not exceed about 2,500 vehicles or 200 to 300 per hour. Traffic volumes beyond this level on any residential street should be addressed with appropriate measures which would lower the volume or reclassify and upgrade the street.

Traffic volume counts taken as part of this circulation element update generally focus upon the higher volume collector and arterial street system. Counts were conducted, however, on some key local streets. The residential streets which have existing traffic volumes exceeding the generally acceptable limit for a street defined as a residential facility are listed in Table 9.

Table 9
Residential Street Volumes Exceeding Allowable Limit

Street	Location	Existing Average Daily Traffic Volume	Existing Peak Hour Traffic Volume
Ardmore Ave.	N/O 4th St.	3,210	350
Ardmore Ave.	N/O 10th St.	5,130	590
Highland Ave.	N/O Longfellow	9,140	910
Valley Dr.	N/O 29th St.	6,420	410
Valley Dr.	N/O Gould	9,090	720
Longfellow	N/O Highland Ave.	2,760	230

A license plate survey was conducted during August 1988 to measure southbound through traffic volumes on several streets during the PM peak period. Table 10 summarizes measured through traffic volumes in the southbound direction during the PM peak period. Pacific Coast Highway experiences the highest through traffic volumes in the City. Approximately 900 vehicles travel entirely through the City on PCH during the afternoon peak hour, which represents 44 percent of the total southbound hourly volume. Valley Drive experiences the second highest level of through trip-making in the City, with about 25 percent of all southbound traffic traveling entirely through the City. A full description of the through traffic survey is contained in Appendix A.

Of the five north-south streets surveyed, a total of 27% of the traffic was through traffic without an origin or destination in the City. Through traffic is not a significant problem on east-west streets during normal commute hours, however, non-resident traffic on east/west streets increases considerably during the summer peak season.

3.7 PROJECTED CIRCULATION SYSTEM

The purpose of this section of the Circulation Element is to forecast future travel demands in the City of Hermosa Beach so that the Circulation Element Update can be designed to accommodate not only existing conditions, but also address future travel demands. It is important that the Circulation Element consider growth in the long term as well as the next one to five years. The future traffic projections prepared as part of the Circulation Element Update are therefore based upon estimated growth within and adjacent to the City to the year 2010.

Future travel demand increases would result from either development within the City or growth in traffic passing through the City. Development within Hermosa Beach would potentially

Table 10
Southbound Through Trips on City Streets During PM Peak Hour

Street	PM Peak Hour Southbound Traffic Volume	PM Peak Hour Southbound Traffic Volume	Through Trips as % of Total Volume
PCH	2,010	885	44%
Ardmore Ave.	710	78	11%
Valley Dr.	180	45	25%
Manhattan/Hermosa	745	97	13%
Prospect Ave.	630	44	7%
Totals	4,275	1,149	27%

impact all streets in the City, while through traffic growth would primarily impact north-south routes such as Pacific Coast Highway, Valley Drive and Hermosa Avenue.

Development Impacts from Adjacent Cities

Future growth in traffic passing through the City of Hermosa Beach will be influenced by development in neighboring cities including El Segundo, Manhattan Beach, Redondo Beach, and Torrance. To obtain information on projected development in those areas, the General Plan Land Use Elements and lists of major developments in the four cities were reviewed. Except for Torrance, all of the land use elements state that most new development will occur from reuse of already developed sites. Expected development according to each City's plan is summarized below.

Manhattan Beach

The City of Manhattan Beach expects only very small population increases (less than 0.5% per year) although employment in the City is expected to increase over 50 percent by the year 2000. The primary area of growth is City Planning Area 5, which is in the northeast corner of the City and is the farthest of the six planning areas from Hermosa Beach.

El Segundo

The major land use in El Segundo is industrial and office, which accounts for over 54 percent of the total acreage. Refinery and heavy industrial uses account for 30 percent of all land in the City. Residential uses occupy 15 percent of the total land and only 4 percent of the total acreage is vacant and undeveloped. The General Plan states that most new development will occur on already developed sites.

The General Plan encourages continued development of office uses within allowable densities. Viable retail uses are also proposed although the recent trend has been loss of retail shops and replacement with services and restaurants. Existing industrial development in El Segundo is to be retained, but no expansion is encouraged. Residential development and population is expected to grow at very low annual growth rates.

Redondo Beach

Existing land use in Redondo Beach is nearly 68 percent residential, 13 percent industrial, 10 percent commercial, and 9 percent other types of land uses. Recent trends have included much lower residential growth than anticipated by the previous General Plan. Commercial growth was also far below planned levels, although industrial growth is far ahead of expectations.

Residential development is expected to slow significantly into the near term future. Population is projected to increase gradually by less than 1 percent per year. Commercial development opportunities are expected to be good within the City, particularly along major retail corridors such as Artesia Boulevard and PCH. Also, North Catalina Avenue between PCH and Beryl Street was zoned for commercial development beginning in 1980. No new commercial uses

have appeared, although the General Plan states that a number of factors could enhance the opportunity for development in that area. Industrial land uses are not expected to grow significantly as only a small industrially zoned parcel is available. Also, several current industrial areas are zoned commercial and thus may be replaced by other land uses.

Torrance

The City of Torrance has just begun the process of updating the land use element of the City's General Plan. The existing element is dated August 1974 and thus is not useful for projecting growth in the City in the next 20 years. At list of major development projects as of December, 1988, was obtained instead of the General Plan to identify likely development which may impact the City of Hermosa Beach circulation system.

A large number of commercial, industrial and residential projects are under construction, have applications approved or have applications in process in Torrance. Nearly all of the industrial and commercial developments are located in the eastern portion of the City east of Prairie Avenue. Many of the residential developments are also located in the eastern section of the City, although a few are located to the west along the City boundary near Redondo Beach.

Summary of Local Development

The level of expected industrial, commercial and residential development varies among the four cities closest to Hermosa Beach. Forecast development potential is identified by each City's General Plan as a range from minimum to maximum build-out. In general, however, most of the available land in the cities immediately adjacent to Hermosa Beach (Redondo Beach, Manhattan Beach, and El Segundo) is already developed.

Future development in each of those cities will mostly consist of replacement and upgrading of existing uses. Housing and population growth in those cities is expected to be minimal. Industrial and office growth in El Segundo may be significant and certain corridors (i.e., North Catalina Street) in Redondo Beach may experience retail development. Much growth is expected in the City of Torrance, although most of the development is anticipated for the eastern portion of the City, approximately 3.5 miles from Hermosa Beach.

Because no large-scale development is expected immediately adjacent to Hermosa Beach in the short term, traffic impacts of outside development will likely be limited to major routes such as PCH, Artesia Boulevard and Aviation Boulevard. Based upon projected growth trends in neighboring cities of less than 1 percent per year for population and housing and 1 to 2 percent per year in selected industrial and retail corridors, a growth rate of 1 percent per year is assumed in the Circulation Element for through traffic in the City. This is likely a conservative (worst case) estimate of future traffic growth in Hermosa Beach due to development outside the City.

The level of existing and projected future through traffic on key north-south streets is summarized in Table 11.

Table 11
Existing and Projected Future Through Traffic on Key Routes Through Hermosa Beach

Street	Existing PM Hour Hour Through Traffic Volume[1]	Future PM Hour Hour Through Traffic Volume	Increase in PM Peak Hour Through Traffic Volume
PCH	885	1,100	215
Ardmore Ave.	78	97	19
Valley Dr.	45	56	11
Manhattan/Hermosa	97	120	23
Prospect Ave.	44	55	11

Total PM peak hour through traffic added by outside development = 279
Daily through traffic added by outside development[2] = 2,790

---

[1] PM peak hour through traffic volume estimated from license plate survey conducted August 1988. AM peak hour through traffic percentages assumed the same as PM peak hour for purposes of analysis.

[2] Daily added traffic estimated as 10 times peak hour added traffic.

Developments Within Hermosa Beach

The second major contributor to future traffic growth is proposed development within the City. To analyze the potential traffic-related impacts of future development, a microcomputer-based traffic model was developed for the entire City. The model covers 25 intersections in Hermosa Beach including 11 signalized intersections. The City was divided into 17 traffic analysis zones (TAZ's) to facilitate the modeling of traffic impacts at the 25 locations.

A list of potential development projects was compiled for use in the traffic analysis model. This list includes some projects which are currently being developed or have permit applications on file. Also included is forecast housing, retail and office growth to the year 2010. The projections are based on historical trends in the City and represent the maximum build-out which would likely occur in the City. Therefore, the traffic model is very conservative and reflects a worst-case traffic analysis.

Table 12 shows the future development by TAZ which is included in the model. Figure 6 illustrates the traffic analysis zone boundaries and specific development locations identified within the City. The maximum anticipated build-out by 2010, as reflected in Table 12, includes 1,118 multi-family housing units (53 per year), 373,940 square feet of retail space (17,800 square feet per year), 414,350 square feet of office space (19,730 square feet per year), 226 hotel rooms and a 1,500-seat theater.

Standard trip generation rates from the Institute of Transportation Engineers (ITE) were used to estimate future trip-making resulting from the developments listed in Table 12. Trip rates for each land use were multiplied by the amount of anticipated development to derive future trip-making. Table 13 displays the trip generation rates by type of land use that were included in the analysis.

The geographic distribution of future trip generation is based upon the location of proposed development, residential employment patterns and existing traffic patterns. The percent of total future traffic volume assigned to each roadway is displayed in Table 14. The data in the table indicates that key arterial streets such as Pacific Coast Highway and Artesia Boulevard are assumed to carry a significant proportion of new trips, although other streets such as Valley Drive, Ardmore Avenue and Hermosa Avenue will also carry some of the future trip generations.

Under the maximum build-out scenario, future development will generate about 6,800 daily housing-related trips, 19,500 retail trips, 6,000 office trips and 5,600 trips related to proposed hotels, restaurants and theaters. Thus, a maximum of 38,000 new daily trips would be added to streets in the City by 2010. During the morning peak hour, approximately 2,040 new trips (5 percent of daily) would be generated by proposed development, while 3,850 new trips (10 percent of daily) would be added during the PM peak hour. Table 15 summarizes the new trips that would be added to the roadway system by 2010. Table 14 indicated the generalized trip distribution percentages by land use type utilized to distribute the added traffic to the roadway network. Figure 7 displays estimated future traffic to be added by development within Hermosa

Table 12
Future Development by Traffic Analysis Zone

Traffic Analysis Zone	Type of Land Use	Size of Anticipated Development
1	None	None
2	None	None
3	None	None
4	Multi-family Housing	86 Units
	Hotel	50 Guest Rooms
5	Multi-family Housing	86 Units
	Senior Housing	100 Units
	Hotel	80 Guest Rooms
	Theater	1,500 Seats
	Retail	28,240 Square Feet
	Restaurant	17,690 Square Feet
6	Multi-family Housing	86 Units
	Hotel	96 Guest Rooms
	Retail	3,000 Square Feet
7	Multi-family Housing	86 Units
8	None	None
9	Multi-family Housing	86 Units
	Retail	68,540 Square Feet
	Office	82,870 Square Feet
10	Multi-family Housing	86 Units
	Retail	68,540 Square Feet
	Office	82,870 Square Feet
11	Multi-family Housing	86 Units
12	Multi-family Housing	86 Units
13	Multi-family Housing	86 Units
	Retail	68,540 Square Feet
	Office	82,870 Square Feet
14	Multi-family Housing	86 Units
15	Multi-family Housing	86 Units
	Retail	68,540 Square Feet
	Office	82,870 Square Feet
16	Multi-family Housing	86 Units
17	Multi-family Housing	86 Units
	Retail	68,540 Square Feet
	Office	82,870 Square Feet

Totals by Land Use Type:

Multi-family Housing - 1118 Units
Senior Housing - 100 Units
Retail - 373,940 Square Feet
Hotel - 226 Rooms
Office - 414,350 Square Feet
Theater - 1,500 Seats
Restaurant - 17,690 Square Feet

Source: City of Hermosa Beach Planning Department

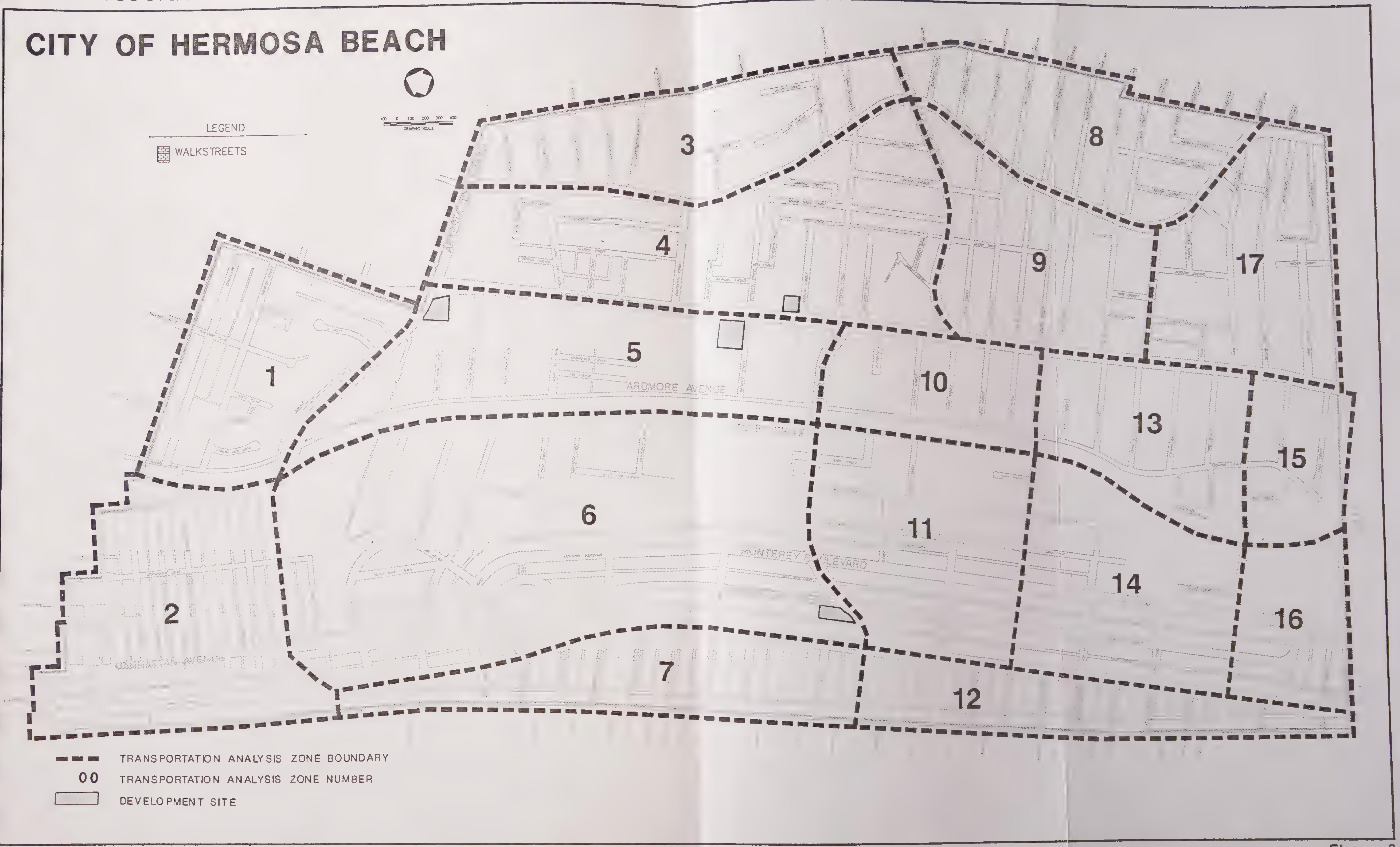


Figure 6
TRANSPORTATION ANALYSIS ZONES AND
PROPOSED DEVELOPMENT SITES

Table 13
Trip Generation Rates

			AM Peak Hour Rate		PM Peak Hour Rate	
Land Use Type	Unit	Daily Rate	In	Out	In	Out
Multi-family Housing	Apartment	5.86	0.07	0.38	0.38	0.19
Senior Citizen Housing	Room	3.30	0.06	0.34	0.27	0.13
Hotel	Room	8.90	0.47	0.24	0.36	0.31
Theater	Seat	1.80	N/A	N/A	0.10	0.04
Retail						
Less than 50 KSF	KSF*	69.41	1.20	0.52	3.61	3.76
Greater than 50 KSF	KSF*	50.88	0.85	0.37	2.17	2.20
Office	KSF	14.38	1.79	0.27	0.33	1.71
Restaurant	KSF	57.40	0.50	0.05	3.00	1.35

---

*KSF = Thousand square feet

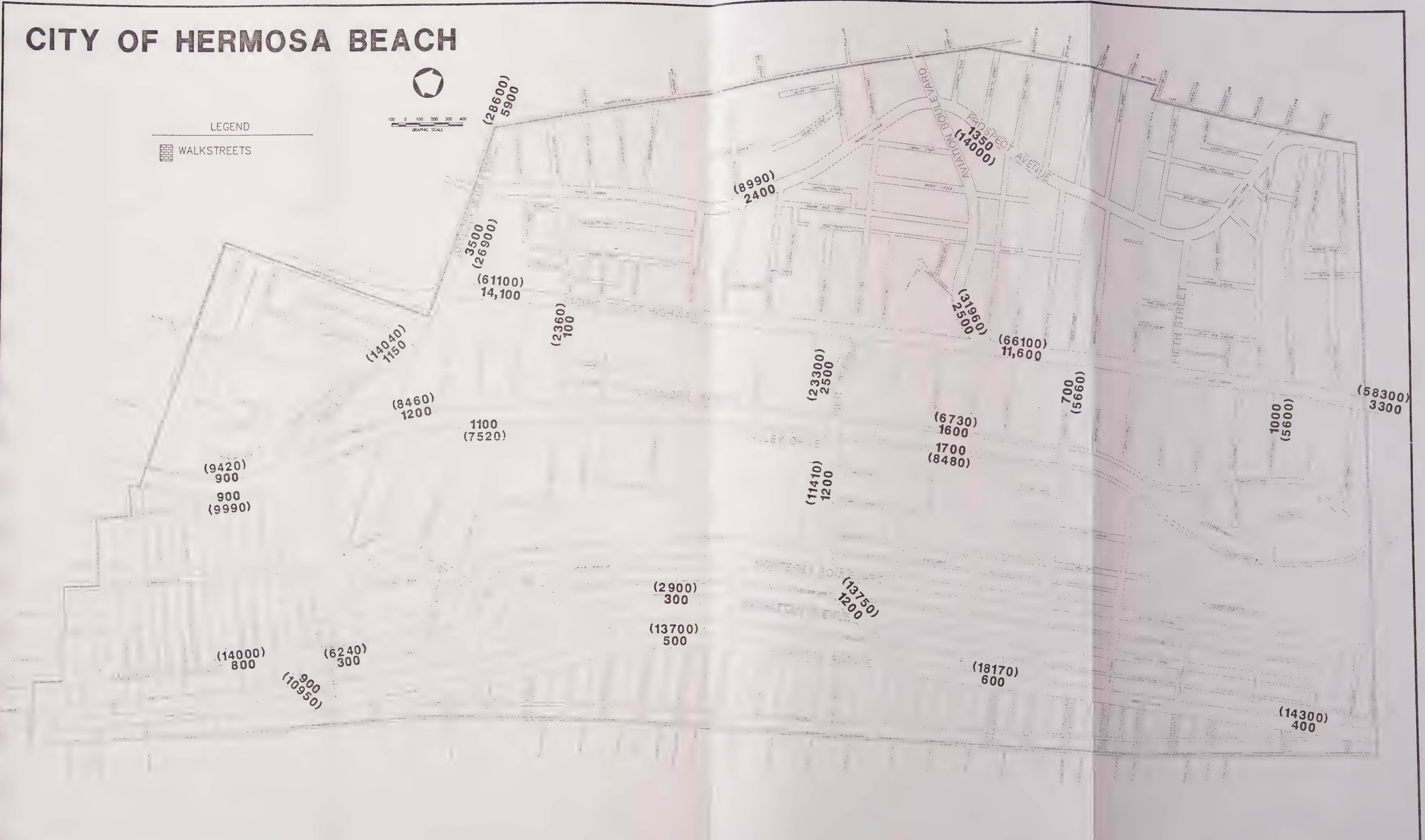
Source: *Trip Generation*, 4th Edition, Institute of Transportation Engineers, Washington, DC, 1987.

Table 14
Estimated Trip Distribution for Future Traffic Volume

Street	Direction (To/From)	Percent of Total Traffic Using Route
Pacific Coast Highway	North	40%
Pacific Coast Highway	South	10%
Artesia Boulevard	East	20%
Aviation Boulevard	East	10%
Valley Drive	North	5%
Valley Drive	South	1%
Ardmore Avenue	North	3%
Hermosa Avenue/Manhattan Avenue	North	3%
Hermosa Avenue	South	2%
Prospect Avenue	South	2%
Prospect Avenue	North	1%
Highland Avenue	North	1%
190th Street	East	2%

Table 15
Forecast 2010 Trip Generation Related to Future Development

	Added Daily Trips by Land Use						
Zone	Housing	Retail	Office	Hotel	Restaurant	Theater	Zone Total
1	---	---	---	---	---	---	0
2	---	---	---	---	---	---	0
3	---	---	---	---	---	---	0
4	500	---	---	450	---	---	950
5	830	1,960	---	710	1,010	2,640	7,150
6	500	---	---	850	---	---	1,350
7	500	---	---	---	---	---	500
8	---	---	---	---	---	---	0
9	500	3,500	1,200	---	---	---	5,200
10	500	3,500	1,200	---	---	---	5,200
11	500	---	---	---	---	---	500
12	500	---	---	---	---	---	500
13	500	3,500	1,200	---	---	---	5,200
14	500	---	---	---	---	---	500
15	500	3,500	1,200	---	---	---	5,200
16	500	---	---	---	---	---	500
17	500	3,500	1,200	---	---	---	5,200
Totals	6,830	19,460	6,000	2,010	1,010	2,640	37,950



NOTE: FORECAST YEAR IS 2010

Figure 7

ESTIMATED FUTURE DAILY TRAFFIC ADDED BY GROWTH WITHIN HERMOSA BEACH (RESULTING YEAR 2010 VOLUME)

Beach and the resulting year 2010 average daily traffic volume at selected locations on the arterial and collector streets. Table 16 provides a comparison of existing and future traffic volumes. Appendix C contains a brief description of the traffic model plus full model documentation and standard output data sheets.

3.8 TRAFFIC IMPACTS OF ANTICIPATED DEVELOPMENT

Signalized Intersection Impacts

The level of service has been forecast at the 11 signalized intersections included in the analysis. The traffic model described in the previous section was used to assign future trips to the roadway network in the City and to calculate the resulting year 2010 volume-to-capacity ratio. Based upon the 2010 V/C ratio, a future level of service is projected at each intersection during the AM and PM peak hours. Tables 17 and 18 display existing and future V/C ratios and level of service during the AM and PM peak hours, respectively. Figure 8 illustrates future signalized intersection volume/capacity ratios and level of service.

During the AM peak hour, intersection operating conditions at three locations would be significantly impacted by future traffic growth. A significant impact is defined as change in LOS to E or F, or change in V/C ratio greater than 0.05 at an intersection already operating at LOS E or F. The three intersections that would be significantly impacted by future traffic are as follows:

- Pacific Coast Highway/Artesia Boulevard (LOS C to LOS E)
- Pacific Coast Highway/Aviation Boulevard (LOS F to LOS F)
- Pacific Coast Highway/Herondo Street (LOS E to LOS F)

During the PM peak hour, seven of the 11 intersections are expected to be significantly impacted by future traffic volume increases. The locations expected to experience impacts are as follows:

- Pacific Coast Highway/Arterial Boulevard (LOS F to LOS F)
- Prospect Avenue/Artesia Boulevard (LOS C to LOS E)
- Pacific Coast Highway/21st Street (LOS D to LOS F)
- Pacific Coast Highway/Aviation Boulevard (LOS F to LOS F)
- Pacific Coast Highway/Eighth Street (LOS E to LOS F)
- Pacific Coast Highway/Second Street (LOS E to LOS F)
- Pacific Coast Highway/Herondo Street (LOS D to LOS E)

Unsignalized Intersections

Future traffic volumes at the 14 unsignalized intersections included in the analysis have been compared to estimated intersection design capacity. Unsignalized intersections with volumes less than or equal to design capacity in the future would operate at level of service "C" or better and would experience stable operating conditions. Those locations where the forecast traffic

Table 16

Existing and Estimated Future Average Daily Traffic Volume

Street	Segment Location	Average Daily Traffic Volume	Estimated Future ADT
Artesia Blvd.	E/O Prospect	22,700	28,600
Artesia Blvd.	W/O Prospect	23,400	26,900
Gould Ave.	E/O Ardmore	12,890	14,040
21st St.	PCH - Springfield	2,260	2,360
Pier Ave.	W/O PCH	20,800	2,330
Pier Ave.	Bard - cypress	10,210	11,410
Pier Ave.	E/O Manhattan	12,550	13,750
Aviation Blvd.	E/O PCH	29,460	31,960
Second St.	E/O Ardmore	3,000	4,000
Prospect Ave.	S/O 17th	6,590	8,990
Prospect Ave.	S/O Aviation	12,650	14,000
PCH	S/O Artiesa	47,000	61,100
PCH	S/O Pier	54,500	66,100
PCH	N/O Herondo	55,000	58,300
Ardmore Ave.	N/O Gould	8,520	9,420
Ardmore Ave.	N/O 25th	7,260	8,460
Ardmore Ave.	10th - 11th	5,130	6,730
Valley Drive	N/O Gould	9,090	9,990
Valley Drive	24th - 25th	6,420	7,520
Valley Drive	10th - 11th	6,780	8,480
Manhattan Ave.	27th - 28th	13,200	14,000
Manhattan Ave.	S/O 19th	2,600	2,900
Greenwich Village	W/O Manhattan	10,050	10,950
Hermosa Ave.	S/O 19th	13,200	13,700
Hermosa Ave.	7th - 8th	17,570	18,170
Hermosa Ave.	S/O Second	13,900	14,300

Table 17
Existing and Future AM Peak Hour Level of Service at Signalized Intersections

Intersection	Existing AM Peak Hour		Future AM Peak Hour	
	Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service
Pacific Coast Hwy/Artesia Blvd.	0.79	C	0.94	E
Prospect Ave./Artesia Blvd.	0.46	A	0.58	A
Pacific Coast Hwy/21st St.	0.63	B	0.75	C
Hermosa Ave./14th St.	0.22	A	0.24	A
Hermosa Ave./13th St.	0.21	A	0.22	A
Hermosa Ave./Pier Ave.	0.62	B	0.63	B
Pacific Coast Hwy/Aviation Blvd.	≥1.00	F	1.42	F
Pacific Coast Hwy/Eighth St.	0.71	C	0.84	D
Pacific Coast Hwy/Second St.	0.74	C	0.84	D
Hermosa Ave/Herondo St.	0.33	A	0.34	A
Pacific Coast Hwy/Herondo St.	0.98	E	1.06	F
Aviation Blvd./Prospect Ave.	0.56	A	0.62	B

Note: Capacity calculations based on National Academy of Sciences, *Highway Capacity Manual*, 1965 and NCHRP Circular 212.

Table 18
Existing and Future PM Peak Hour
Level of Service at Signalized Intersections

	Existing PM Peak Hour		Future PM Peak Hour	
Intersection	Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service
Pacific Coast Hwy/Artesia Blvd.	≥1.00	F	1.47	F
Prospect Ave./Artesia Blvd.	0.79	C	0.93	E
Pacific Coast Hwy/21st St.	0.80	D	1.14	F
Hermosa Ave./14th St.	0.27	A	0.28	A
Hermosa Ave./13th St.	0.29	A	0.29	A
Hermosa Ave./Pier Ave.	0.51	A	0.53	A
Pacific Coast Hwy/Aviation Blvd.	≥1.00	F	1.47	F
Pacific Coast Hwy/Eighth St.	0.98	E	1.26	F
Pacific Coast Hwy/Second St.	0.93	E	1.20	F
Hermosa Ave/Herondo St.	0.36	A	0.37	A
Pacific Coast Hwy/Herondo St.	0.89	D	0.98	E
Aviation Blvd./Prospect Ave.	0.73	C	0.88	D

Note: Capacity calculation based on National Academy of Sciences, *Highway Capacity Manual*, 1965 and NCHRP Circular 212.

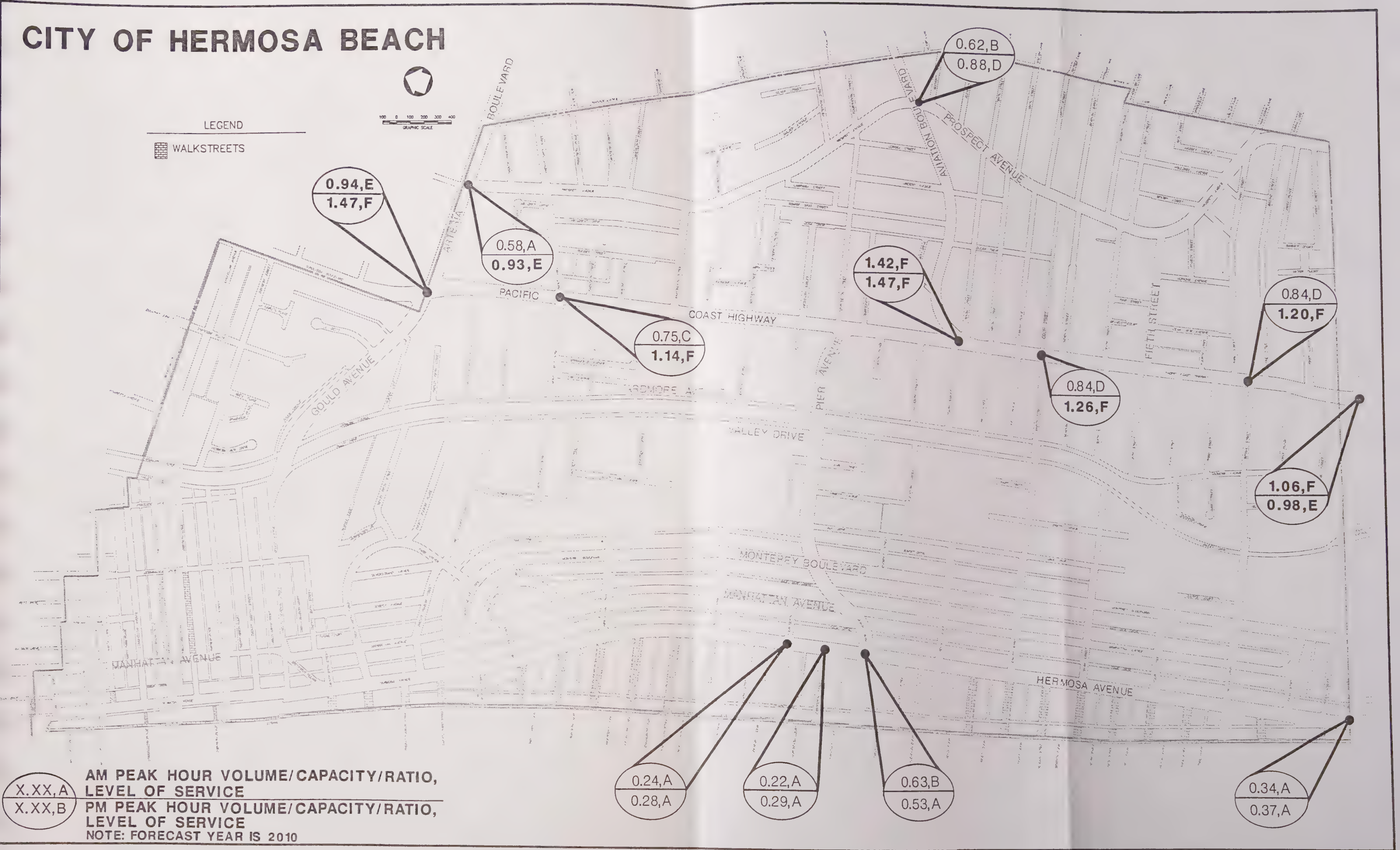


Figure 8
FORECAST FUTURE SIGNALIZED INTERSECTION LEVEL OF SERVICE

volume is expected to exceed design capacity would experience greater motorist delay and longer vehicle queues.

Unsignalized intersections expected to be significantly impacted by future traffic growth are identified in the following paragraphs.

Existing and future unsignalized intersection operations are summarized in Tables 19 and 20 for the AM and PM peak periods, respectively.

The data in the tables indicate that during the morning peak hour, two stop sign controlled intersections are expected to be impacted by future traffic growth. Traffic volumes are expected to exceed intersection design capacity at both Valley Drive/Pier Avenue and Ardmore Avenue/Pier Avenue. During the evening peak hour, future traffic growth is not expected to impact any intersection locations, although seven intersections already experience traffic volumes which exceed design capacity.

Unsignalized intersections which exceed design capacity may still be operating with acceptable conditions. Mitigation measures may be required at some locations if volumes increase capacity significantly. Mitigation measures such as restriping or minor spot widening may be required.

3.9 PROPOSED CIRCULATION PLAN MAP

Figure 9 illustrates the Revised Functional Classification System for the Circulation Element. The only change in roadway classification is the designation of Gould Avenue as a local street. The City Council directed that it be reclassified from a collector to a local street primarily because of the predominance of residential land uses along Gould Avenue.

Table 19
Existing and Future Unsignalized Intersection
AM Peak Hour Capacity Analysis

	Existing Volume		Future Volume	
Intersection	Below Capacity	Exceeds Capacity	Below Capacity	Exceeds Capacity
Manhattan Ave./27th St.	X		X	
Valley Drive/Gould Ave.	X		X	
Ardmore Ave./Gould Ave.	X		X	
Ardmore Ave./21st St.	X		X	
Manhattan Ave./16th St.	X		X	
Monterey Boulevard/Pier Ave.	X		X	
Valley Drive/Pier Ave.	X			X
Ardmore Ave./Pier Ave.	X			X
Hermosa Ave./8th St.	X		X	
Valley Drive/8th St.	X		X	
Ardmore Ave./8th St.	X		X	
Valley Drive/2nd St.	X		X	
Ardmore Ave./2nd St.	X		X	
Valley Drive/Herondo St.	X		X	

Table 20
Existing and Future Unsignalized Intersection PM Peak Hour Capacity Analysis

	Existing Volume		Future Volume	
Intersection	Below Capacity	Exceeds Capacity	Below Capacity	Exceeds Capacity
Manhattan Ave./27th St.		X		X
Valley Drive/Gould Ave.		X		X
Ardmore Ave./Gould Ave.		X		X
Ardmore Ave./21st St.		X		X
Manhattan Ave./16th St.	X		X	
Monterey Boulevard/Pier Ave.	X		X	
Valley Drive/Pier Ave.		X		X
Ardmore Ave./Pier Ave.		X		X
Hermosa Ave./8th St.		X		X
Valley Drive/8th St.	X		X	
Ardmore Ave./8th St.	X		X	
Valley Drive/2nd St.	X		X	
Ardmore Ave./2nd St.	X		X	
Valley Drive/Herondo St.	X		X	

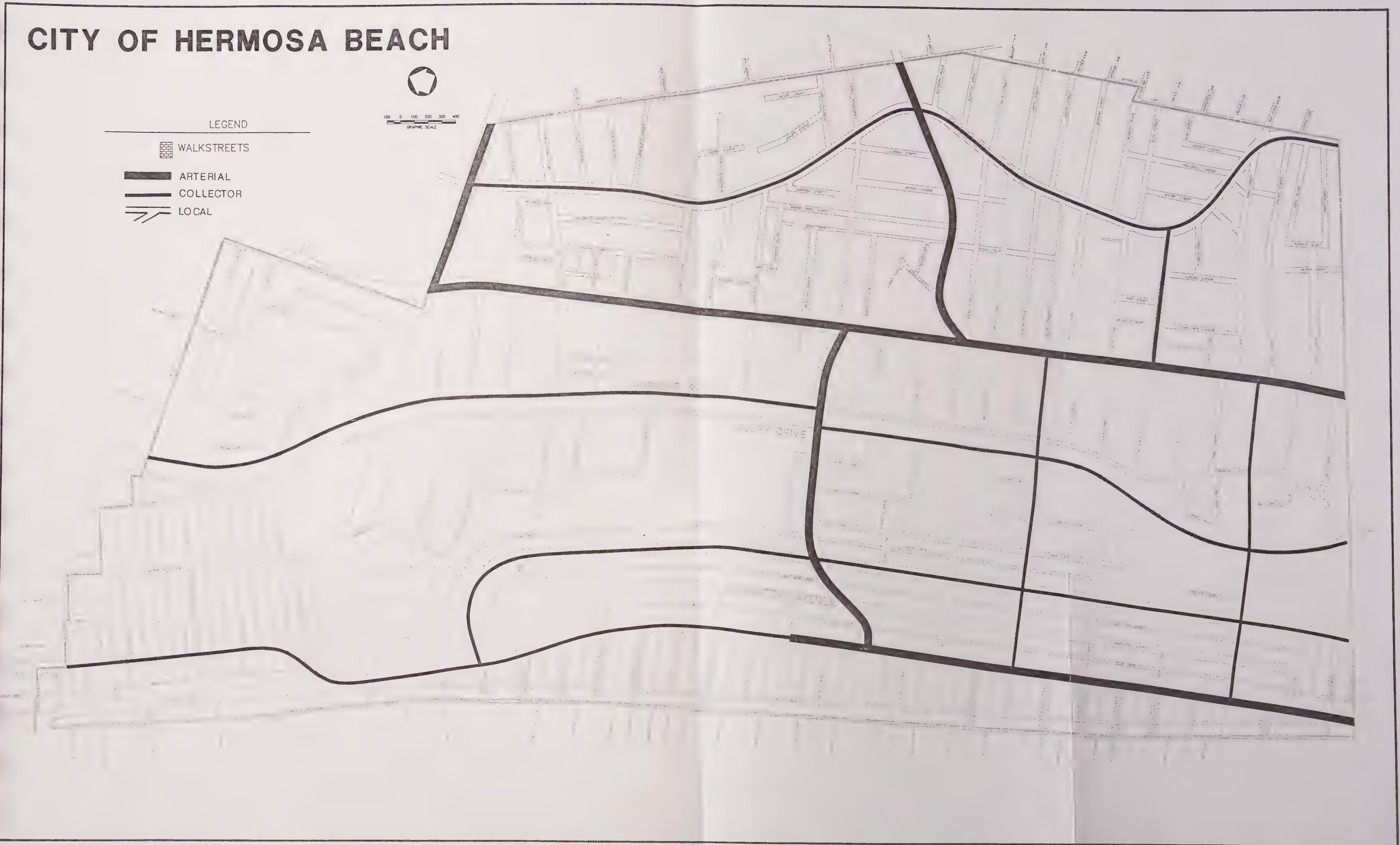


Figure 9
REVISED FUNCTIONAL CLASSIFICATION SYSTEM

SECTION 4

TRANSPORTATION

4.0 TRANSPORTATION

The transportation system in Hermosa Beach consists of the physical circulation system reviewed in Section 3.0 plus public transit routes, private transit operators, bicycle routes, pedestrian circulation and truck routes. Public transit and other elements of the transportation system are reviewed in this section.

Goals, policies and objectives related to transportation are presented first, followed by a review of existing transit services and a chronology of transit service in the City since 1979. Recommended improvements to transportation services are proposed at the end of the section.

4.1 TRANSPORTATION SYSTEM GOALS, OBJECTIVES AND POLICIES

The complete list of goals, objectives and policies for the Circulation, Transportation and Parking Elements is presented in Section 2. Repeated below are those objectives and policies which are specifically applicable to the transportation section of the element.

OVERALL GOAL: Provide a balanced transportation system for the safe and efficient transport of people and goods consistent with the goals of the Land Use Element.

OBJECTIVE 1.0:

Maximize the use of alternative transportation modes and multi-passenger vehicles for transportation within and through the City and decrease reliance on single passenger automobiles.

IMPLEMENTATION POLICY 1.0

Encourage participation in carpool matching services by residents and City businesses.

IMPLEMENTATION POLICY 1.1

Coordinate to the extent possible with neighboring cities in the development of a Transportation Demand Management Plan.

IMPLEMENTATION POLICY 1.2

Maximize the use and availability of public transit service within the City by residents and visitors.

IMPLEMENTATION POLICY 1.3

Seek and support ways of expanding available capital funding and operating subsidies for public transportation.

IMPLEMENTATION POLICY 1.4

Promote transfer arrangements between the City's paratransit and fixed-route service, as well as between other paratransit operations in nearby cities.

IMPLEMENTATION POLICY 1.5

Maintain coordinated schedules and fare structures among the varied transit services so they are affordable and accessible to transit dependent persons and residents throughout the City.

IMPLEMENTATION POLICY 1.6

Investigate the potential of using vacant land area at the City's boundaries as park-and-ride sites.

IMPLEMENTATION POLICY 1.7

Encourage and facilitate pedestrian and bicycle travel city-wide.

IMPLEMENTATION POLICY 1.8

Provide for the transport of bicycles on public transit vehicles (both fixed route and paratransit) wherever possible.

IMPLEMENTATION POLICY 1.9

Maintain the surfaces of bike paths and pedestrian ways to insure safety and ease of travel.

IMPLEMENTATION POLICY 3.6

Require all new development to accommodate project-generated parking consistent with encouraging alternate transportation demand management programs.

IMPLEMENTATION POLICY 4.7

Provide and maintain pedestrian access routes throughout the City including sidewalks, walk streets, and pedestrian bridges.

4.2 EXISTING TRANSIT SERVICES

Both fixed route and demand responsive services currently operate in the City of Hermosa Beach. Fixed route services are those transit lines which operate on regular schedules along a set route. Certain fixed route services are modified on weekends or during peak periods. Demand responsive services have defined service areas but do not operate on fixed routes or schedules. Rides are provided when transit passengers call and request service. Demand responsive systems often serve transit dependent persons such as the elderly and handicapped. They often serve major destinations such as hospitals and medical centers but may also take passengers to local destinations such as neighborhood shopping centers.

Fixed Route

The Southern California Rapid Transit District (SCRTD) operates five routes through Hermosa Beach including Lines 130, 225/226, 232, 439 and 443. The City of Los Angeles Department of Transportation operates Commuter Express Line 438. Figure 10 displays those routes graphically and shows the locations of each marked bus stop in the City. The following paragraphs describe the service provided by each line.

Line 130

Line 130 is an east-west route that travels along Hermosa Avenue in south Hermosa, then along Pier Avenue to Artesia Boulevard, serving the South Bay Galleria, Cal State University Dominguez Hills and eastward to Fullerton. Service is offered with one hour headways on weekdays and weekends. Daily ridership along this line (total persons boarding, all stops) is approximately 2,140. Within Hermosa Beach, the bus stop with the highest ridership on this line is Pacific Coast Highway at Artesia Boulevard, with 40 riders per day. Total ridership on this line at stops in Hermosa Beach is about 140 per day.

Line 232

Line 232 travels in a north-south direction along Pacific Coast Highway, originating in Long Beach and terminating at the LAX Transit Terminal. Service is provided with 20 minute headways all day, Monday through Friday. There are 30 minute headways on weekends. Total daily ridership along the entire line is approximately 6,070.

Line 225/226

Line 225/226 is a north-south route running along Pacific Coast Highway in Hermosa Beach south of Aviation Boulevard and along Aviation Boulevard from Pacific Coast Highway to the eastern City boundary. The line terminates at the LAX Transit Terminal. Line 225/226 operates northbound with 20 minutes headways from 5:30 AM until 8:00 AM when headways are shifted to 30 minutes. Two morning southbound runs operate at 7:30 and 8:30 AM, while five evening southbound runs operate from 3:30 PM to 5:45 PM with half-hour to 45 minute

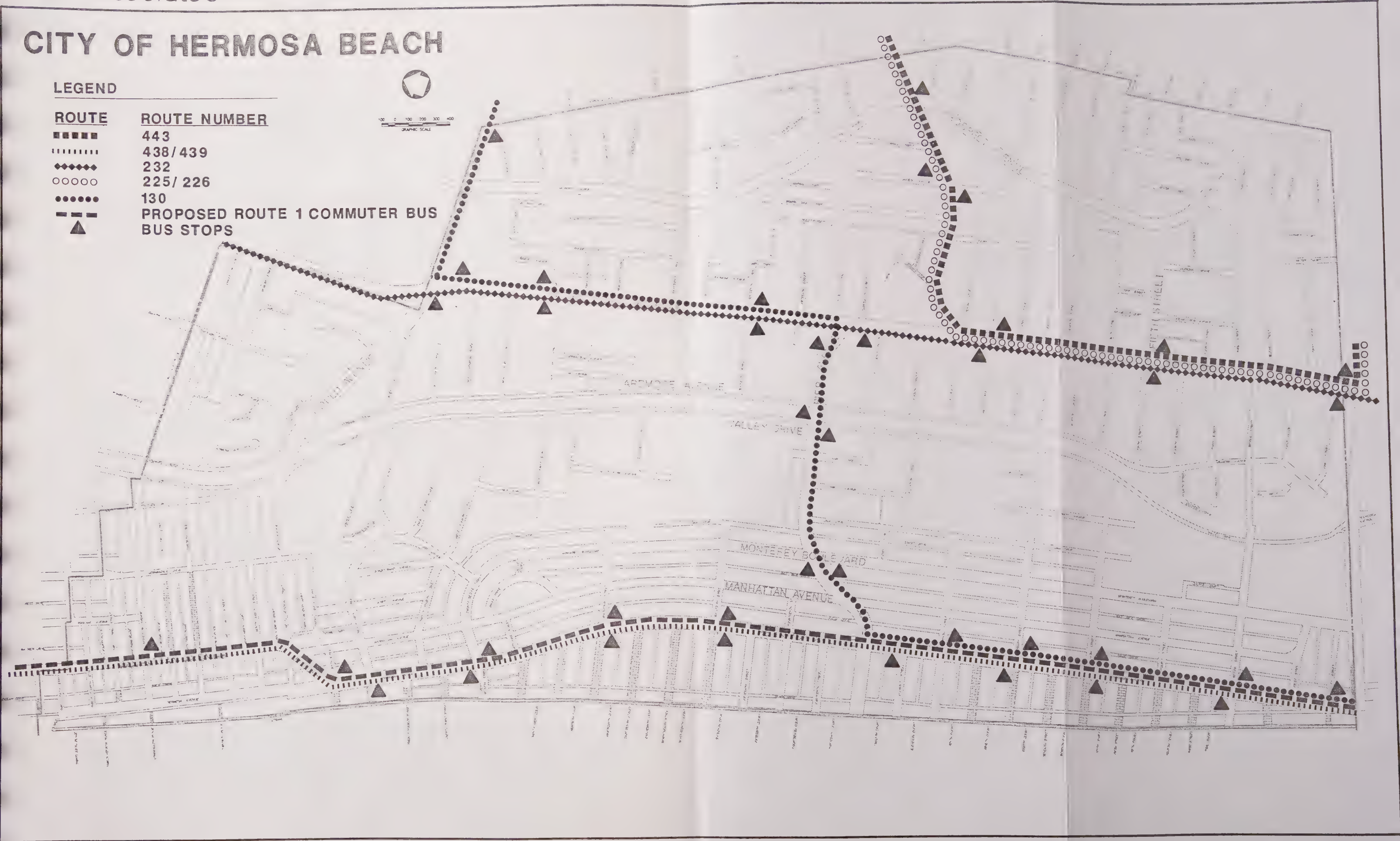


Figure 10
EXISTING TRANSIT SERVICE ROUTES

headways. Average daily ridership along the entire line is 1,700. Within the City, the most utilized stop is Pacific Coast Highway at 9th Street, with 25 riders per day. Total ridership within Hermosa Beach is about 130 riders per day.

Line 443

Line 443 (a downtown Los Angeles express route) duplicates the Line 225/226 service within the City of Hermosa Beach. However, it travels east on Artesia Boulevard, past the South Bay Galleria to the San Diego Freeway, then to downtown Los Angeles. It operates Monday through Friday with similar headways to Line 225/226. Average daily ridership for the line is 260. The stop within Hermosa Beach with the highest ridership is Prospect Avenue at Aviation Boulevard, which has approximately 10 riders per day. Total ridership within the City is about 16 per day.

Line 439

Line 439 is an express service which links the Palos Verdes peninsula and the beach cities to downtown Los Angeles. This route travels in a north-south direction along Hermosa Avenue, then along Highland Avenue in Manhattan Beach. Line 439 continues on to the LAX Transit Terminal (completely missing the El Segundo employment center), before continuing into downtown Los Angeles. The line has 30-minute headways all week. Average ridership over the entire line is 3,030, with about 40 riders per day at Hermosa Avenue/11th Street in Hermosa Beach. Total ridership at Hermosa Beach stops is 120.

Line 438

Line 438 is also a freeway express route to downtown Los Angeles. The route originates on Hermosa Avenue at 10th Street and runs along Hermosa Avenue, Greenwich Village, and Manhattan Avenue within the City. This line is funded by the City of Los Angeles Department of Transportation and is run by a private transit company. Average daily ridership is 180 over the entire line. Approximately 32 riders board this line in Hermosa Beach each day.

Besides express routes summarized above, service into downtown Los Angeles is available by taking any one of the north-south routes that travel through Hermosa Beach and transferring onto the desired express bus at the LAX Transit Terminal to complete the trip. In fact, service to downtown Los Angeles is generally more convenient than service to most other destinations including the El Segundo employment center.

Demand Responsive Service

The Cities of Hermosa Beach and Redondo Beach jointly operate the WAVE, a general public demand responsive transit service. The WAVE travels within both cities and to select satellite points. The service is contracted to Dave Systems for the daily management and operations. Additional information on the WAVE system is presented in the next section.

There are numerous private taxi and shuttle operators that serve the area. These taxi operators and airport shuttles are listed in Appendix D.

The following section describes demand responsive transit services and shuttle services that have been provided by the City since the mid-1970's.

4.3 TRANSIT SERVICE CHRONOLOGY SINCE 1970's

The following provides a brief chronology of significant events related to public transit services provided by the City of Hermosa Beach to supplement the services provided by the Southern California Rapid Transit District (SCRTD):

1970's

The City of Hermosa Beach Free Bus was in operation and available to the general public. It operated on two fixed routes through the City, including a northern and southern loop. The service was operated from 8:00 AM to 5:00 PM daily.

BEEP - (Bus Express Employee Program) - In the mid-1970's, the BEEP commuter service was initiated as a demonstration project funded by the Urban Mass Transportation Administration. Approximately ten lines were operating throughout the South Bay, serving the El Segundo employment center. As a result of major funding cutbacks and low patronage, only two BEEP lines remain in service, the 685 and the 686. Neither provides service to Hermosa Beach, since both lines run east of the City.

1979

The City purchased a Mercedes transit coach to expand the "Free Bus" service.

1980

The City purchased a GMC 12 passenger van. Both vehicles were purchased through grants provided by the Federal Highway Administration and Federal Aid Urban Grant Funds.

1982

September 1982-1986

Hughes Commuter Bus Program - The Hughes Aircraft Company made a major attempt at providing commuter services for its employees with eight lines operating from north and south of the El Segundo employment center. One of these routes served Hermosa Beach along Pacific Coast Highway, making two stops within the City at Aviation and Artesia Boulevards. The service was operational for about four years, but was terminated in September 1986, due to financial constraints.

1983

The Free Bus experienced a marked decline in ridership (annual ridership 17,620).

1984

Further declines in ridership were experienced by the Free Bus (annual ridership 3,409). Potential reasons include frequent repairs to vehicles and lack of personnel to operate the system. The Free Bus service was terminated and superseded by the following services:

1984

The City approved a contract with Transit Contractors to operate a demand-response type of transit service and a fixed-route beach shuttle.

- Dial-A-Ride - This service operated from 8:00 AM to 4:00 PM on weekdays. Service was within the City plus for six satellite points including:
    - Manhattan Beach Shopping Mall
    - Manhattan Beach Social Security Office
    - Redondo Beach Medical Clinic
    - South Bay Hospital
    - Torrance Memorial Hospital
    - Little of Company Hospital

- Fixed Route Beach Shuttle - This service operated from May to September 15. It was mandated by the Coastal Commission as a condition of approval of the parking permit program and partially funded with Urban Mass Transportation Administration (UMTA) funds. This service operated between public parking areas and the beach.

  The service had 15 minutes headways and its hours of operation were 9:00 AM to 5:00 PM, seven days per week ($0.25 fare). The service experienced very low levels of utilization. According to an UMTA study entitled, "A Preferential Parking Demonstration in Hermosa Beach," the probable cause was lack of knowledge about the service, stop locations or the schedule.

  The beach shuttle service was terminated due to low ridership levels in 1986.

August 1985

HERMAN - (Hermosa/Manhattan Commuter Bus) A commuter bus, operated by the Cities of Hermosa Beach and Manhattan Beach, was initiated for residents who live in these two cities and work in the El Segundo employment area. Two northbound and two southbound lines (Routes A and B) operated between Herondo at the City's south border and the El Segundo employment center via Hermosa Avenue. Route A was an early morning run into El Segundo with an early evening return, back to Hermosa Beach. Route A only went as far north as El

Segundo Boulevard, whereas Route B traveled north to Imperial Highway and operated within the employment center. Route B had approximately twice as many riders as Route A. Due to low ridership on Route A, this route was eliminated. Some informal park and ride activity occurred at the Hermosa Beach/Redondo Beach border; motorists parked their cars near the Edison right-of-way along Francisca Street and utilized HERMAN to commute to El Segundo.

February 1987

The Cities of Hermosa Beach and Redondo Beach consolidated their Dial-A-Ride programs into one and initiated the WAVE transit service. The WAVE, a demand-responsive general public transit service, operates within the Cities of Hermosa Beach and Redondo Beach, and to selected satellite points in Torrance and Manhattan Beach including:

- Del Amo Medical Offices
- El Camino College
- Little Company of Mary Hospital
- The Medical Offices across the street from the Little Company of Mary Hospital
- Torrance Memorial Hospital
- Lomita Boulevard Medical Offices (up to Torrance Memorial Hospital)
- Manhattan Beach Social Security Office
- Skypark Medical Offices

Average daily ridership on the WAVE system varies from 200-500, depending upon day of the week and time of year. Ridership within Hermosa Beach is about 35-40 per day, which represents 15 to 20 percent of total ridership. In the summer, ridership within the City increases to an average of 35-65, with occasional peaks up to about 150 per day.

This service has demonstrated increasing success since its start. The ridership when the system opened in 1987 was 2.8 riders per hour. It has steadily increased to its current level of 4.6 riders per hour, and is now approaching the original goal of 5.0 riders per hour.

For the general public, the service operates from 7:00 AM to 7:00 PM Monday through Friday, excluding holidays, with a fare of $1.00 per ride within the City and $1.50 to Satellite points. The service is available from 6:00 AM to 12:00 PM, seven days per week including holidays for seniors and disabled at a fare of $0.50 per ride.

May 1988

The Hermosa Beach Commuter Bus (HERMAN) was terminated in anticipation of the South Bay Commuter Bus service which is to be implemented late in 1988 by several South Bay cities including Hermosa Beach. During the five to six months of service interruption, commuters must use SCRTD lines (which do not circulate through the El Segundo employment area) or they must revert back to driving their personal automobiles.

4.4 OTHER COMMUTER TRANSPORTATION SERVICES

No commuter transportation services such as rideshare matching are provided to residents by the City, however, those types of services are offered by Commuter Transportation Services (also called Commuter Computer or CTS) in Los Angeles. In 1987, Hermosa Beach took the lead as the responsible agency for development and implementation of the Commuter Bus Transportation Implementation Plan (CTIP) which reviewed commuter transportation within the South Bay area. Six other municipalities joined the effort in hopes of finding a solution to the increasing traffic congestion problems in the South Bay. As stated in the CTIP report, "(these cities) have correctly recognized that there is no single-city solution to traffic congestion, and that a coordinated, cooperative effort is the most productive means of alleviating the problem."

Three corridors were studied as part of the CTIP effort, including a Coastal Corridor which directly impacts and affects Hermosa Beach, a Central Corridor and a Southeastern Corridor. All corridors were studied as north-south commute routes from San Pedro and the Palos Verdes Peninsula, with the El Segundo employment center as the destination.

The plan includes detailed routes, schedules, bus stops, equipment specifications, financing and organizational recommendations. A brief summary of the CTIP findings, conclusions and recommendations follows:

- 2,759 Hermosa Beach residents work within the El Segundo employment area.

- Transit mode share (percent of all travel made on buses) is only about one percent in the South Bay. This compares to an average of five percent throughout Southern California and 20 percent in downtown Los Angeles.

- Approximately 13,000 workers in the South Bay are identified as persons who may utilize public transit for work commutes if improved or redesigned services are offered.

- Approximately five percent of all north-south vehicle commute trips (about 50 to 60 per hour during peak periods) could be reduced through the City and other neighboring cities with full plan implementation.

- Four new transit routes are proposed along the "Coastal Corridor" which includes the City of Hermosa Beach.

- The CTIP Advisory Committee chose two of the four routes for implementation. Those routes follow Hermosa Avenue and Manhattan Avenue within the City.

- A density map of potential frequent bus users was created for the CTIP study. Along Hermosa Avenue, 10-15 people in each grid (zone) going from south to north, said they would use the commuter bus. Further east in the area between Pacific Coast Highway and Aviation, the number of persons who said they would use a commuter bus was much higher, either in the 16-20 person per grid range or 21-29 person range.

Hermosa Beach Resident Commuting Patterns

A residential based density map was prepared for the Circulation, Transportation and Parking Element by Commuter Computer. This shows the work location of all residents in the City who are currently registered with Commuter Computer.
Approximately 800 Hermosa Beach residents are currently registered with Commuter Computer through their employers. Although this is only a small sample of the total resident working population, it does indicate the general location of work trips to and from the City by residents.

Table 21 shows the distribution of resident work sites of those residents currently registered with Commuter Computer. About 60 percent of working residents registered with Commuter Computer work directly north of the City in El Segundo and Manhattan Beach. Other significant work locations include downtown Los Angeles, Marina Del Rey and Torrance.

The table indicates that only 2 percent of Hermosa Beach residents registered with Commuter Computer work in Hermosa Beach. This survey could be expected to under-represent residents who live and work in the City of Hermosa Beach since their purpose in registering with Commuter Computer is primarily to form carpools for longer distance commutes. The survey is therefore probably only representative of the relative distribution of Hermosa Beach residents work places outside of the City.

4.5 RAIL SYSTEM

The Atchison, Topeka and Santa Fe Railroad (AT&SF) right-of-way is generally located between Valley Drive and Ardmore Avenue throughout the City. All railroad service along that right-of-way has been abandoned and the tracks removed. The land is currently used for parking in some locations such as the area east of City Hall, and it includes a marked jogging/exercise trail. An environmental impact report on the development of the railroad right-of-way was completed in January 1988. No other rails lines currently operate in the City.

A rail transit engineering study of the West Los Angeles and South Bay areas was completed in 1983 by Caltrans. The study addressed the feasibility of rail passenger service on the proposed 4.5 mile abandonment portion of the AT&SF rail right-of-way through El Segundo, Manhattan Beach, Hermosa Beach and Redondo Beach. The conclusion of the study was that the project is feasible from an engineering standpoint.

The Los Angeles County Transportation Commission (LACTC) is the agency which is actually responsible for developing a rail transit implementation strategy. The Commission is currently constructing the Long Beach-Los Angeles Light Rail Transit Route and a Century Freeway Route using funds raised through the Proposition A half-cent sales tax. Other lines, including a coastal corridor route, are currently being evaluated.

An environmental impact report is currently being prepared for the coastal corridor route which extends from north of the Los Angeles International Airport (LAX) to the Palos Verdes peninsula. Throughout the South Bay, the proposed coastal corridor route would be located generally

Table 21
Work Sites of Hermosa Beach Residents Registered with Commuter Computer

Work Site	Residents Employed at Site Number	Percent
El Segundo	326	45%
Hawthorne/Gardena	111	15%
Manhattan Beach	85	12%
Downtown Los Angeles	54	8%
Marina Del Rey	28	4%
Redondo Beach/Torrance	21	3%
Carson	18	3%
Hermosa Beach	15	2%
Palos Verdes Peninsula	15	2%
Airport Area	13	2%
Northridge	11	2%
Santa Monica	10	1%
West Hollywood/Hollywood	10	1%
TOTAL	717	100%

along Hawthorne Boulevard and would not enter the City of Hermosa Beach. Figure 11 displays the location of the proposed Coastal Corridor Light Rail Transit Route, South Segment in relation to the City of Hermosa Beach and major transportation facilities.

4.6 AVIATION

Los Angeles International Airport is located approximately four miles north of the City boundary. The closest municipal airport is in the City of Torrance, approximately four miles southeast of Hermosa Beach and the Hawthorne Airport is located northeast of the City approximately 4.5 miles. There are no aviation facilities located in the City.

4.7 ELECTRIC TRANSMISSION LINES AND GAS PIPELINES

The service planning branch of the Southern California Edison Company was contacted regarding major electric transmission lines in the City. Other than branch lines which service residences and businesses within the City, no major transmission lines pass through Hermosa Beach. High power transmission lines to the generating plant in Redondo Beach are located immediately south of the City along the south side of Herondo Avenue.

Natural gas service to the City is also provided by normal branch pipelines. No major gas transmission pipelines or high pressure lines are located within the City. A large transmission line is located immediately south of the City. That pipeline serves the electrical generating plant in Redondo Beach.

4.8 TRUCK ROUTES

The City has established a designated truck route plan. Truck routes direct heavy truck traffic onto arterial and collector facilities and away from local (residential) streets. This plan helps control noise and air pollution in residential areas of the City and protects local streets from significant surface damage that might result from heavy truck traffic. Most areas of the City requiring truck access (e.g., commercial areas along Pacific Coast Highway, Aviation Boulevard, Artesia Boulevard, and Pier Avenue) are within close proximity to truck routes. The designated truck route system does not, however, serve several retail businesses in the northwestern portion of the City along Greenwich Village, 27th Street and Manhattan Avenue. Existing designated truck routes are displayed in Figure 12.

4.9 BICYCLE ROUTES

The City currently has two marked bicycle routes. Those routes are along the Strand from the southerly City boundary north to 24th Street connecting to the route on Hermosa Avenue from 24th Street to the north City boundary. The bike route connects to a bike path to the north in Manhattan Beach. That path is a designated bike route in Manhattan Beach which runs

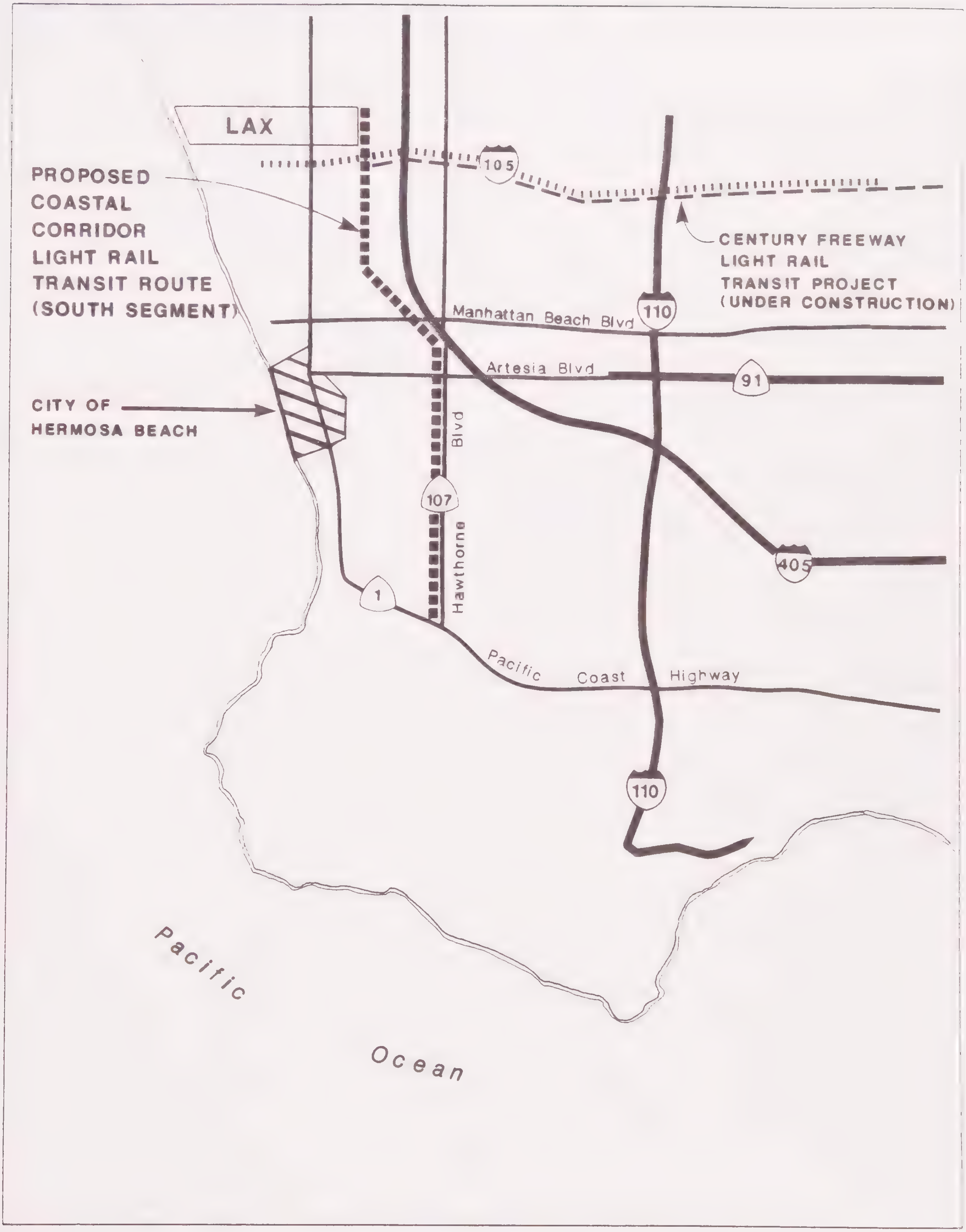


Figure 11
PROPOSED COASTAL CORRIDOR LIGHT RAIL TRANSIT ROUTE
SOUTH SEGMENT

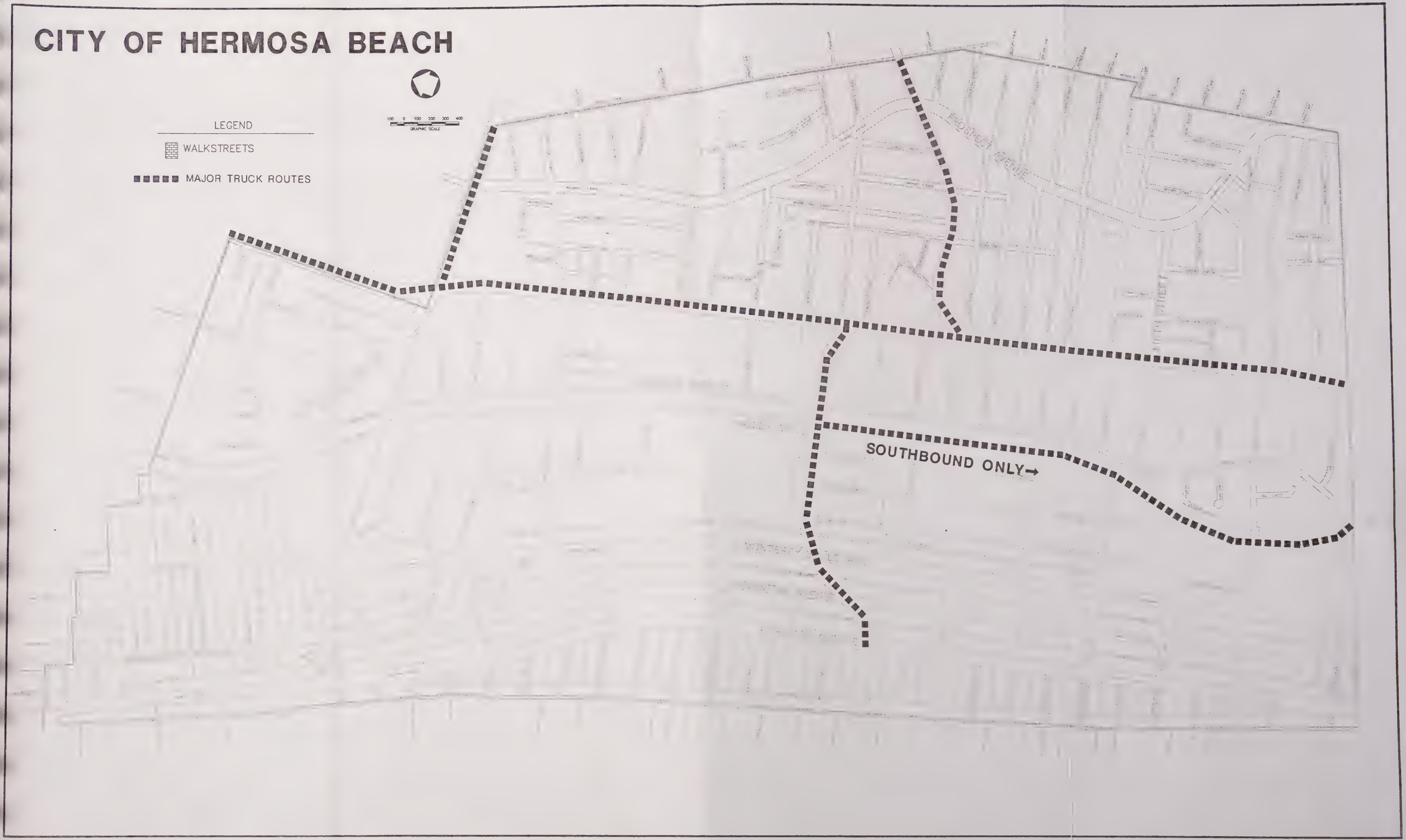


Figure 12
EXISTING DESIGNATED TRUCK ROUTES

along the beach north into El Segundo, the City of Los Angeles and Santa Monica. To the south, the Strand turns easterly for about 600 feet where it connects to a designated bike route in Redondo Beach along Harbor Drive. Figure 13 displays the locations of those routes as well as key bicycle generators within the City.

Bicycle generators are those areas which attract bicycle users due to their location and the type of activity which takes place on-site. Key locations include the Hermosa Valley School, the Pier, Valley Park, Clark Stadium, the library, the Pavillion and a private school. As shown in Figure 13, only the pier is directly served by a marked bicycle route.

Caltrans has designated three classes of bikeways which may be established in California[*]. A definition of each bikeway class is presented below:

> Class I Bikeway (Bike Path) - Provides for bicycle travel on a right-of-way completely separated from any street or highway. The Strand bikeway is similar to a Class I facility, although bicycles share the path with pedestrians.
>
> Class II Bikeway (Bike Lane) - Provides a striped lane for one-way travel on a street or highway and signs indicating the bicycle route. Class II bikeways are located on Hermosa Avenue from the north edge of the City to 24th Street and south of the City boundary on Herondo from Valley Drive/Francisca to Pacific Coast Highway.
>
> Class III Bikeway (Bike Route) - Provides for shared use with pedestrian or motor vehicle traffic. Signs are posted which indicate that the road also serves as a bike route although no special striping is provided for bicyclists. There are currently no Class III bikeways within the City of Hermosa Beach.

4.10 SUGGESTED ROUTE TO SCHOOL PLAN

The City of Hermosa Beach has adopted a suggested route to school plan. This plan designates those streets along which students are encouraged to walk/ride to school and identifies those streets which should receive priority for pedestrian amenities (e.g., sidewalks, handicapped ramps, signalized pedestrian crossings, crossing guards, etc.). The plan is shown in Figure 14. The locations where crossing guards are posted each school day are also shown in the figure. Guards are posted at the following locations:

- Gould Avenue/Valley Drive
- Pier Avenue/Valley Drive
- 8th Street/Pacific Coast Highway
- Pier Avenue/Pacific Coast Highway
- 21st Street/Pacific Coast Highway

---

[*] *California Highway Design Manual*, Bikeway Planning and Design, California Department of Transportation, Sacramento, CA 1983.

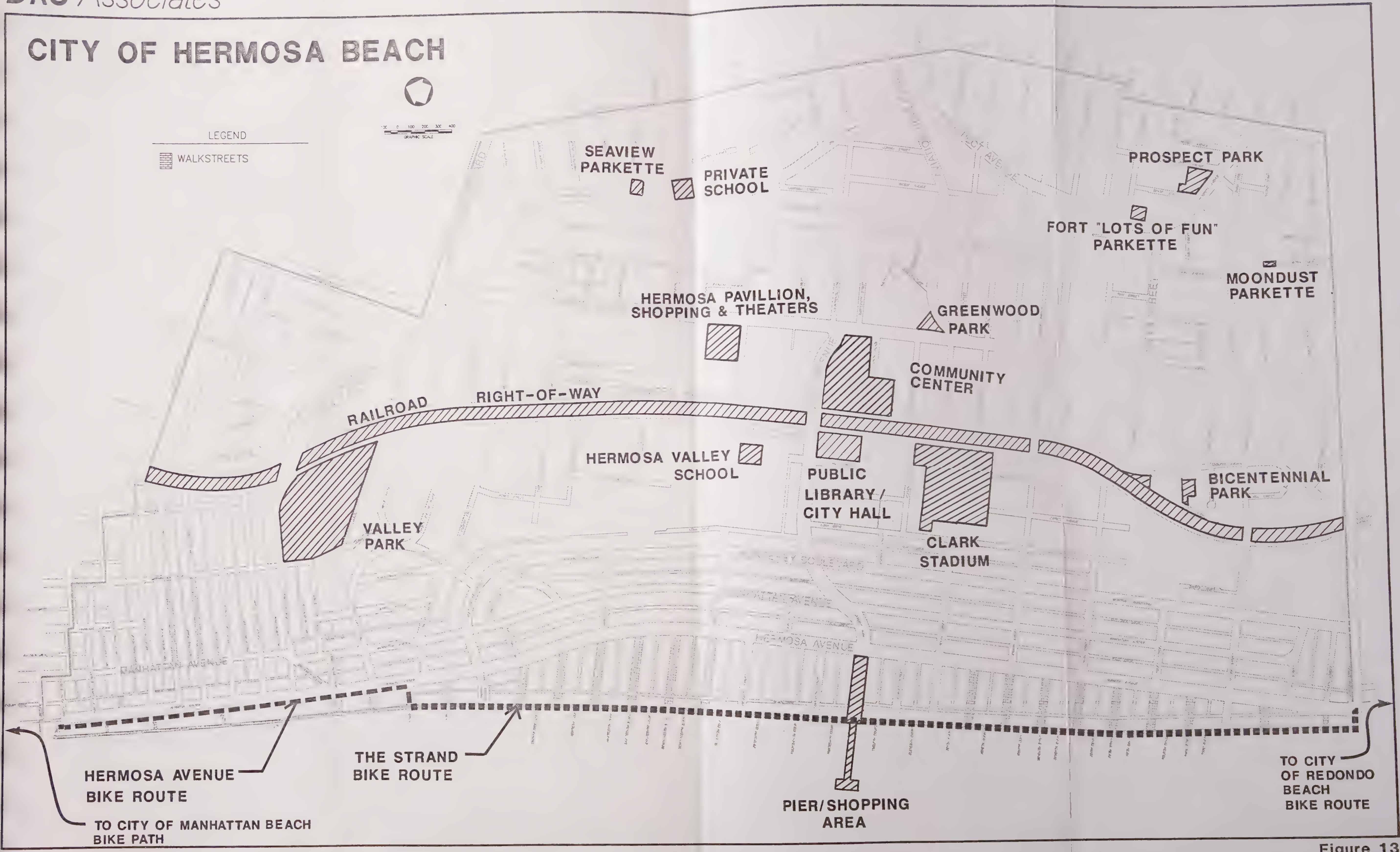


Figure 13

BICYCLE ROUTES AND GENERATORS OF BICYCLE TRAFFIC

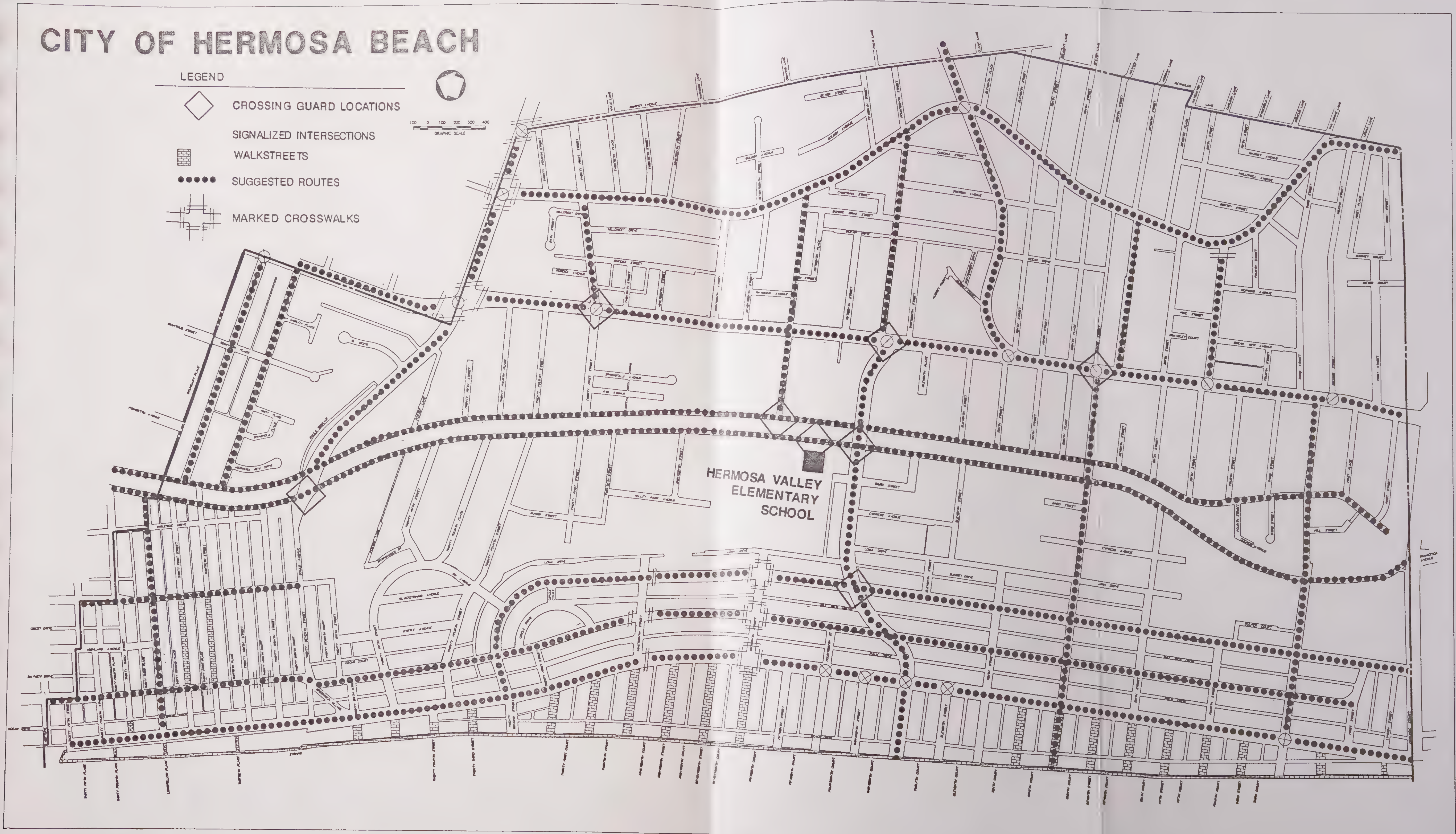


Figure 14
SUGGESTED ROUTES TO SCHOOL

- 16th Street/Ardmore Avenue
- Monterey Boulevard/Pier Avenue

Normal crossing guard hours are 7:45 to 8:45 AM and 2:00 to 4:00 PM except at Pier Avenue/Valley Drive and Pier Avenue/Monterey Boulevard where they arrive at 7:30 AM.

4.11 PROPOSED TRANSPORTATION ELEMENT RECOMMENDATIONS

The previous sections in this chapter include descriptions of transportation systems in the City besides the physical roadway network. This section presents the proposed Transportation Element recommendations developed as part of the Circulation, Transportation and Parking Element update. Recommended improvements to transit services, shuttle services, bicycle circulation and transportation systems are summarized in this section.

The impacts of new or modified transit services, rideshare matching services, bike routes and shuttle services are quantified where possible. In some cases, however, it is not possible to accurately predict the level of ridership or the number of vehicles removed from the roadway system due to the lack of historical information on which to base the analysis (i.e., bicycle commuters who would use a new bike route). In those cases, no numerical prediction of improvement is made, but a general level of impact of the service improvement is stated.

Transit Services

Recommended transit service improvements are listed below as part of the Transportation Plan. It cannot be determined exactly how many additional persons would utilize transit services as a result of these improvements. Previous studies indicate, however, that many persons in the South Bay and Hermosa Beach would utilize transit if it was more easily accessible, convenient and attractive. The CTIP study indicated that 28 percent of the Hermosa Beach residents who work in the El Segundo employment center would frequently utilize commuter transit services.

Currently only 150 to 200 persons utilize SCRTD and City of Los Angeles transit lines per day city-wide. This represents only 1.5 percent of the estimated employed population of 12,700 persons in the City.* This falls far below the regional average of 6.6 percent transit ridership for home-to-work trips. If the regional average transit ridership percentage is met in the City, approximately 650 additional workers would utilize transit services. This would remove nearly 570 cars from the roadway system each morning and evening peak commute period. Additional transit ridership would also be expected from the non-working resident population as a result of the following transit system improvements.

---

* *1980 Census Population and Housing*, U.S. Department of Commerce, Bureau of the Census, Washington, D.C., 1983.

1. Establish one phone number where callers can obtain information on all transit services available. A similar phone line has been successfully implemented for the Cities of Torrance, Gardena and Carson as well as the Southern California Rapid Transit District. The number should integrate services in Hermosa Beach, Manhattan Beach, Redondo Beach and El Segundo.

2. Work with SCRTD planning staff to reroute line 232 and line 225/226 to serve commuters traveling to the El Segundo employment area. This service would be especially valuable before the South Bay Commuter service is operational on Pacific Coast Highway.

3. Develop a shuttle system to operate during summer months, during special events and in downtown area for visitors to evening entertainment. The shuttle should become operational if a public parking structure is built. (See next Section for further discussion.)

4. Initiate interagency transfer agreements wherever possible between the Cities' paratransit and fixed route services, as well as between neighboring cities' paratransit services.

5. All new or remodeled developments with a bus stop nearby should be conditioned to provide a bus turnout lane for off-street loading and unloading of passengers when at least one of the following criteria is met:

   - Bus traffic in the curb lane is prohibited.
   - Traffic in the curb lane exceeds 250 vehicles during the peak hour.
   - Passenger volumes exceed 20 boardings an hour.
   - Traffic speed is greater than 45 miles per hour.
   - Accident patterns show need for a separate turn-out.

   Design criteria for bus stops and turnout lanes are included in Appendix F. It should be noted that installation of bus turnout lanes may require dedication of additional right-of-way to implement.

5A. Provide uniform and attractive benches and/or shelters at high activity transfer points and also at prominent points which the City wants to call attention to, including viewing decks and entry points to certain areas of the City.

5B. Erect weather-resistant Directories at a height readable by children and wheelchair users. Directories should contain transit information and show pathways to direct visitors to attractions/walking trails, etc.

5C. Construct or lease benches and/or bus shelters at the following locations:

   - At all bus stops along Pacific Coast Highway, wherever space permits a bus shelter. Artesia and Pacific Coast Highway is a high activity transfer location at both east

and west street sides. The design could also serve as a landmark to identify the City border or entry-way to one of the subareas of the City.

- All bus stops along Aviation Boulevard and Pier Avenue, eastbound and westbound stops. A pathway directory should be installed at the windmill park and at all bus stops along Pier Avenue.

- At bus stops along Hermosa Avenue wherever there is a commercial use, or at significant intersections (e.g.,the bus stop nearest to 27th Street and "five corners" intersection) or the bus stop closest to the City's north and south border.

Amenities at shelter locations should include transit information, trash receptacles, public telephone, if one is not available nearby, and pathway directories.

6. Pocket guides should be designed and made available for all residents and visitors informing them of the transit routes and services, bicycle paths and walkways. Public parking should be more clearly identified. Points of interest, entertainment, restaurants and personal services should be located on the map. The guides should be distributed to mini shopping malls, hotels and motels, restaurants, places of entertainment and other businesses.

Intra-city Shuttle Service Recommendations

Section 4.3 includes a description of shuttle services that have operated in Hermosa Beach since the 1970's. Most recently, a shuttle system known as the Free Bus operated until 1984. That shuttle service ran throughout the City on two routes from 9:00 AM to 5:00 PM, Tuesday through Sunday.

A second shuttle system was implemented in 1984 as part of the permit parking program. The California Coastal Commission mandated that system to ensure access to the beach despite the parking restrictions. The service was terminated in 1986 with Coastal Commission approval. There is currently some interest in a new shuttle system for the City. Several types of shuttle services could be considered which would serve different community needs.

Several population target groups may be served by a shuttle system within the City. Potential shuttle system riders include:

- Residents who need access to the beach, shops and restaurants downtown, and shops and services along Pacific Coast Highway.

- Non-resident beach users who may choose to park in satellite parking areas rather than high-cost, congested lots near the beach.

- Employees of commercial businesses downtown and along Pacific Coast Highway who may also park in satellite parking areas due to parking cost or congestion near their work place.

Each group has special needs that require different types of shuttle services. For example, beach users primarily require services on weekends during the summer, while business employees would use shuttle services on weekdays and residents may use a shuttle on both weekdays and weekends.

Any shuttle service must be easy to use by the target population. It must cover a route that is easily accessible and that serves key points in the City such as the beach, downtown shops, the Civic Center and major markets.

Separate shuttle systems should be considered for the distinct user groups. This may be necessary to reduce headways to acceptable levels. For example, beach goers will likely not use a shuttle which requires them to wait more than 5 to 10 minutes or does not take them directly to a satellite parking area. A weekday shuttle, however, may make several additional stops to serve persons who require access to shops and businesses as well as the beach.

A weekend shuttle system oriented towards residents, beach users, visitors, and employees in the downtown area would likely experience the highest ridership levels. Based on previous experiences and interviews with downtown employees, it appears that a weekday shuttle would have limited ridership which would not justify provision of a shuttle system. If a weekend system is established, however, the transit vehicles could be used to operate a limited weekday system which is specifically designed for employees and residents rather then visitors and beach goers.

A weekend shuttle system should only be implemented in conjunction with development of satellite parking lots/structures which are located outside of the downtown area and away from the beach. Without convenient, well advertised parking away from the beach, nonresidents would continue to look for parking near the beach.

Potential locations for parking areas away from the beach are limited to a few City-owned lots. The most likely locations include the community center parking/tennis area and the railroad right-of-way between Valley Drive and Ardmore Avenue south of Pier Avenue. The Financial Feasibility Study for a proposed community center parking structure determined that a 440-space structure would be economically feasible at that location[*]. The report states, however, that the structure would only be fully utilized by employees and beach users if a very convenient, high quality and low cost shuttle system is available to those who want to park in the structure. Thus, a shuttle system would not likely be successful without new parking and a community center parking structure would not likely be successful without a shuttle system.

---

[*] "Draft Financial Feasibility Study, Lot B and Community Center Parking Structures," prepared for City of Hermosa Beach Vehicle Parking District No. 1 by Economic Research Associates and Kaku Associates, May 1984.

Other satellite parking areas may be utilized in other areas of the City on a temporary basis through lease agreements. Very high land purchase costs would, however, make development of permanent City-operated lots or structures prohibitively expensive on land that is not currently owned by the City. Suggested potential locations for temporary or seasonal (i.e., summer only) parking areas to be served by a shuttle include:

- Vacant parcels, if any exist, along PCH (e.g., at Gould Avenue)
- Along the utility easement right-of-way along Herondo Street
- Hermosa Valley School and/or Civic Center parking
- Office parking lots/structures along PCH (weekend use only) where shared use agreements can be negotiated with office development owners.

Previous shuttles have failed for several reasons including inadequate advertising, poor directional signage, low-quality waiting areas and irregular service. Corrections of the these basic problems would greatly enhance the chances for consistently higher ridership levels.
A new City-sponsored shuttle system should include the following features:

- Highly visible advertisements at major entrances to the City. Good directional signage to satellite parking areas is mandatory. At a minimum, directional signs to central parking areas should be posted at every major entrance to the City including:

    - Pacific Coast Highway at Manhattan Beach
    - Pacific Coast Highway at Redondo Beach
    - Artesia Boulevard at Harper Avenue
    - Aviation Boulevard at Harper Avenue
    - Ardmore Avenue at Longfellow Avenue
    - Valley Drive at Longfellow Avenue
    - Highland Avenue at 34th Street
    - Manhattan Avenue at 35th Street
    - Pier Avenue at Pacific Coast Highway
    - Hermosa Avenue at Herondo Street

- Attractive kiosks with transit information and information about City attractions. Daily parking permit sales could also be combined at these locations. Ideally, these kiosks should be located at two or three of the City portals listed above.

- All stops should have functional and attractive benches and waiting areas.

- Attractions near the City, such as major restaurants in Redondo Beach, may be included in some shuttle routes.

- Vehicles should include convenient storage racks for surfboards, beach supplies, etc.

Beach Drop-off Locations

To operate efficiently as a beach shuttle during the summer, convenient beach drop-off locations must be included in the route. Ideally, the beach drop-off locations should be located as close to the beach as possible such as at the western end of local streets such as Second Street, 10th Street, etc.

Drop-off locations west of Hermosa Avenue at the end of such streets are not feasible, however, due to emergency access considerations. Access must be maintained for emergency vehicles on those local streets because they are the only direct route for lifeguards during the summer season. Lifeguards commonly use the street system to move emergency vehicles from one area of the beach to another because the sand is to crowded to allow safe vehicular movement. Presence of shuttle vehicles and passengers loading/unloading could cause delays in the emergency response system.

The most feasible location for beach shuttle drop-off would, therefore, be along Hermosa Avenue. Either new shuttle stops could be established through a parking removal program or the existing RTD bus stops could be jointly utilized for RTD buses and shuttle vehicles. The first option would result in removal of two to three existing parking spaces per stop, while joint use of existing RTD stops would preserve existing parking. If existing stops are utilized, it is important that separate signs are posted with information regarding the shuttle.

On summer weekends the shuttle should operate primarily between the downtown/beach area and the satellite parking lots. Along Hermosa Avenue, every existing RTD stop (see Figure 13) should be used as a shuttle stop. Other stops should be restricted to the parking areas and a few major activity centers in the east part of the City such as the Boys Market, the Lucky Market and the Alpha Beta Market. Limiting the number of stops on summer weekends would provide shorter headways at parking areas and encourage use of the shuttle/satellite parking system.

On non-summer weekends and all weekdays, the shuttle could be used to serve more areas of the City. During peak commute hours, however, headways should be minimized and the service should emphasize transportation of downtown and Pacific Coast Highway employees from satellite parking areas to the commercial districts.

Rideshare Matching Recommendations

It can be assumed that many Hermosa Beach residents work for small employers that do not register with Commuter Computer. It would be a valuable service to offer residents a residential-based rideshare registration program since they may never have the opportunity to participate through their employers. It should be a voluntary measure, possibly organized by the Homeowners and Renters Associations in conjunction with a City Transportation Coordinator. Registrants should be cautioned to register with either their employer or the City's designated Coordinator, but not both in order to avoid duplication. Residential-based rideshare registrations are being successfully implemented in other residentially oriented communities in areas of the Antelope Valley, Rancho Santa Margarita and Orange County. Commuter regis-

trations in these communities have been handled by Commuter Computer in cooperation with local realtors.

Implementation of a residential rideshare matching service and several other transportation programs would likely require the services of a full- or part-time Transportation Coordinator. These duties may include, but would not be limited to:

A) Establish a residential-based rideshare registration program.

B) Liaison with neighboring cities to accomplish joint programs such as:

  - a beach cities or Coastal Transportation Zone
  - development of a sub-regional (South Bay) commuter bicycle route
  - securing Park and Ride locations either on the City's border of near City limits
  - on-going development of the South Bay Commuter bus services.

C) Monitor RTD bus schedules and the needs of all residents to ensure that transit services match the residents' needs.

D) Promote interagency agreements between transit operators.

E) Develop a pilot program for installing bicycle racks on selected transit vehicles.

F) Work with merchants to develop resident and visitor guides depicting points of interest, attractions, restaurants, government services, all parking areas, bike trails, walking tours, etc.

G) Work with agencies such as Caltrans, LACTC, and SCAG, to continue researching and securing public funds for necessary improvements.

H) Select candidate locations for new bicycle racks/storage lockers.

I) Implement a beach/commercial shuttle service when a new parking garage is constructed.

J) Sell bus passes and provide other personal assistance for trip planning.

K) Continue working with Commuter Computer and Southern California Air Quality Management District.

Bicycle Route Recommendations

The bike route system in the City identified in Section 4.9, consists of the Strand and a small segment along Hermosa Avenue. Several significant generators of bicycle traffic are not along these routes and therefore are not directly served by any bike routes. Recommendations regarding the Strand bike path and potential bike paths throughout the City are discussed below.

The Strand Bike Path

Over the past 15 years, studies have been conducted periodically regarding the beach bike path location and design. A review of all background material relating to the bicycle path along the Strand, and an on-site survey was conducted as part of the Circulation, Transportation and Parking Element Update. Various improvement alternatives have been considered and can be summed up in three options:

1. Status quo - continue to allow a mixed use pathway for pedestrians, skaters and cyclists.

2. Provide a separate lane next to the Strand for through bicycle traffic.

3. Relocate the bike path to an alternate street parallel to the Strand.

Option One, allowing mixed-use of the Strand has caused several accidents. Five were reported in the summer of 1985, another five in the summer of 1986, and 33 accidents occurred on the Strand from May through October of 1987. Other undocumented accidents have also likely occurred.

The City is currently using its SB821 funds (bicycle and pedestrian uses) for repair and maintenance of a bike lane along the west side of Hermosa Avenue at the City's northern border, and south to 29th Court. The City receives approximately $5,000 annually to use for bicycle and pedestrian improvements.

Signals have been installed on the Strand which are manually operated by the beach patrol officers primarily on weekends and holidays. The signals are activated when there is increased traffic congestion of pedestrians, skaters and cyclists. Cyclists are instructed to walk their bikes when they see the caution lights flashing. This helps reduce the accident potential for all users of the Strand.

Option Two, constructing a separate bike path parallel and adjacent to the Strand, is a desirable but costly alternative. Dual use of a path for bicycle and pedestrian traffic is undesirable and should be avoided wherever possible. Construction of a separate bicycle path would eliminate most conflicts and would reduce the number of accidents between bicyclists, pedestrians and skateboarders. The estimated construction cost of such a facility is $175,000, which far exceeds the annual City budget for use on bicycle related improvements.

Option Three, relocating the bike path to an alternate parallel street would be advantageous because it would eliminate many bicycle/pedestrian conflicts. This option is likely not feasible, however, because the closest possible street (Hermosa Avenue) is too narrow to accommodate a separated bike path. Hermosa Avenue, which is directly adjacent to the Strand, could not feasibly be widened for a bike lane. If a route farther east was chosen for relocation for the path, bicyclists would still likely try to use the Strand because of its proximity to the beach.

Based on the criteria listed above, the recommended option is to continue to allow mixed-use of the Strand unless funding can be obtained for construction of a separate bike only route on the beach. Improvements similar to the recently installed signal warning system should continue to be investigated.

Other Bike Route Locations

As stated earlier, most of the City is not connected by a bike route system. Ideally, the transportation system in the City should include bike routes which serve most major generators of bicycle traffic. There are, however, many factors to consider in determining the proper location for bicycle facilities. Several key factors influencing bike route locations are:

- Potential use - the facilities should be located where use will be maximized.
- Directness - the bikeways must be along a direct course and serve activity centers or they will not be convenient to riders.
- Available width - for on-street paths, overall roadway width must be sufficient to allow for the path to be built to standard dimensions (at least four feet for one-way paths and 8 to 12 feet for two-way paths).
- Traffic volumes and speeds - roadway travel speeds and traffic volumes must be considered. Large traffic volumes mean more potential bicycle/motorist conflicts, although a bike path along a lightly used street might not attract may riders.
- Truck and bus traffic
- Pavement quality
- Accident history
- Ease of maintenance
- Adjacent curb-side parking

Properly designed bike facilities can be useful for recreational and commuting cyclists and can increase access to generators of bicycle traffic. However, due to severe right-of-way constraints, heavy traffic volumes, conflicts with curb parking and other potential conflicts, there are no streets in Hermosa Beach which could accommodate properly designed bike facilities without widening and purchase of costly right-of-way. Poorly conceived bikeways or paths designed below standard can be counterproductive to bicycle education and enforcement programs. For these reasons, no additional bike routes are proposed on existing streets in Hermosa Beach.

SECTION 5

PARKING

5.0 PARKING

Goals, policies and objectives related to parking are presented first in this section, followed by an overview of existing parking conditions, a forecast of future parking conditions and recommended improvements to the parking systems in the City.

5.1 PARKING GOALS, OBJECTIVES AND POLICY

The complete list of goals, objectives and policies for the Circulation, Transportation and Parking Element is presented in Section 2. Repeated below are those objectives and policies which are specifically applicable to the parking section of the element.

IMPLEMENTATION POLICY 1.6

Investigate the potential of using vacant land area at the City's boundaries as park-and-ride sites.

OBJECTIVE 3.0

Ensure an adequate supply of parking, both on-street and off-street, to meet the needs of both residents and commercial businesses.

IMPLEMENTATION POLICY 3.0

Study construction of a public parking facility in the downtown to enhance business, possibly on the northwest corner of Pier and Manhattan Avenues and in the Civic Center area to serve visitors to the City. Investigate an efficient shuttle system to serve the parking structure and beach front areas.

IMPLEMENTATION POLICY 3.1

Encourage the provision of preferential parking for high occupancy vehicles wherever possible.

IMPLEMENTATION POLICY 3.2

Continue implementation of preferential parking districts in residential neighborhoods when requested by residents and shown to be warranted by existing conditions.

IMPLEMENTATION POLICY 3.3

Encourage the most efficient use of parking facilities. Where applicable, existing development should consider provisions for compact spaces, tandem parking valet service, shared parking and other innovative means to resolve parking deficiency.

IMPLEMENTATION POLICY 3.4

Remodel existing public parking lots and street spaces as necessary to improve efficiency, safety and urban design.

IMPLEMENTATION POLICY 3.5

Require that all parking facilities provide parking spaces appropriate to the needs of the handicapped.

IMPLEMENTATION POLICY 3.6

Require all new development to accommodate project-generated parking consistent with encouraging alternate transportation demand management programs.

IMPLEMENTATION POLICY 3.7

Require the use of garages for parking of vehicles and not for storage, and periodically evaluate the adequacy of existing standards in light of vehicle ownership patterns within the City.

5.2 EXISTING PARKING CONDITIONS

The parking system in Hermosa Beach consists of on-street parking, public lots, private driveways, private lots and private structures. On-street parking is available throughout the City in metered spaces, non-metered spaces and on streets with no striped spaces, but with legal curbside parking. On-street parking is prohibited on various streets due to factors such as narrow curb-to-curb width, heavy traffic volumes or restricted sight distance.

Public off-street parking consists of Lots A, B and C in the downtown area which charge fees for parking and free lots located at the City Hall, Library and Community Center. The three pay public parking lots are located in a special parking zone, called Vehicle Parking District (VPD) Number 1. Fees from the those lots originally went to the Vehicle Parking District, but as of 1984, the revenues and expenses accruing to VPD No. 1 were allocated to a city-wide parking fund for the purposes of managing all public parking facilities.

Private off-street lots are located primarily in commercial districts such as along Pacific Coast Highway, Artesia, Aviation, Pier and Hermosa Avenues. These lots are generally posted as available for use by customers and/or employees only.

On-street parking meters are generally located near the beach west of Manhattan Avenue. Meter posts are painted either yellow or silver. Yellow meters allow parking for up to 12 hours and cost $0.50 per hour. Silver meters allow parking up to 2 hours and cost $0.50 per hour. Figure 15 shows the locations of meters and their time limits throughout the City.

A residential parking permit district has been established in the area west of Loma Drive, Monterey Boulevard, Park Avenue and Morningside Drive. Parking permits for the district are made available by the City to residents, merchants and employees of the district on an annual basis, and to non-residents on a daily basis. VPD permits are available to merchants and employees on a monthly basis. Approximately 8,500 residential permits are issued annually at a cost of $25 per permit while about 500 to 600 daily permits at a cost of $5.00 per day are issued each year. Most daily permits are issued during summer months.

Residents with annual permits may legally park at yellow meters for up to 72 hours. Permits also are available which enable residents to park in the street in front of and blocking their own driveways. Figure 16 displays the locations of the residential permit district, Vehicle Parking District No. 1 and key public lots.

City-wide Survey

Parking utilization surveys were conducted city-wide during the month of October 1987. The surveys measured the number of on-street parking spaces utilized on each block from 10:00 AM to 7:00 PM and also included 43 key off-street parking lots. The surveys were conducted on two Saturdays. Saturday was chosen to represent the average day with the highest overall parking demand when both residents and certain businesses (e.g., retail and restaurants) require parking throughout the day. The survey was not intended to measure peak parking demand on a peak day when both residents and visitors overwhelm the available supply of parking (i.e., a summer holiday on a peak summer Saturday), but rather peak resident/business demands that could reasonably be expected to be accommodated by public parking facilities.

For purposes of this analysis, the City was divided into 17 parking analysis zones as shown in Figure 17. The number of spaces occupied on each block was recorded every hour between 10:00 AM and 6:00 PM, and compared to the number of available spaces. Appendix H contains tables which display key information derived from the survey, including:

- number of spaces per block
- number of spaces utilized per block for each hour of the day
- percent of spaces utilized per block for each hour of the day

Any block with 90 percent or more of available spaces occupied during an hour is considered to be parking deficient, indicating that residents/visitors would have difficulty finding a parking space on that block. Although there is no established standard for "acceptable" occupancy of local street parking, the 90 percent figure was chosen as a conservative guideline for planning purposes. With less than 90 percent occupancy, at least one or more spaces will be available on each block during each hour of the day.

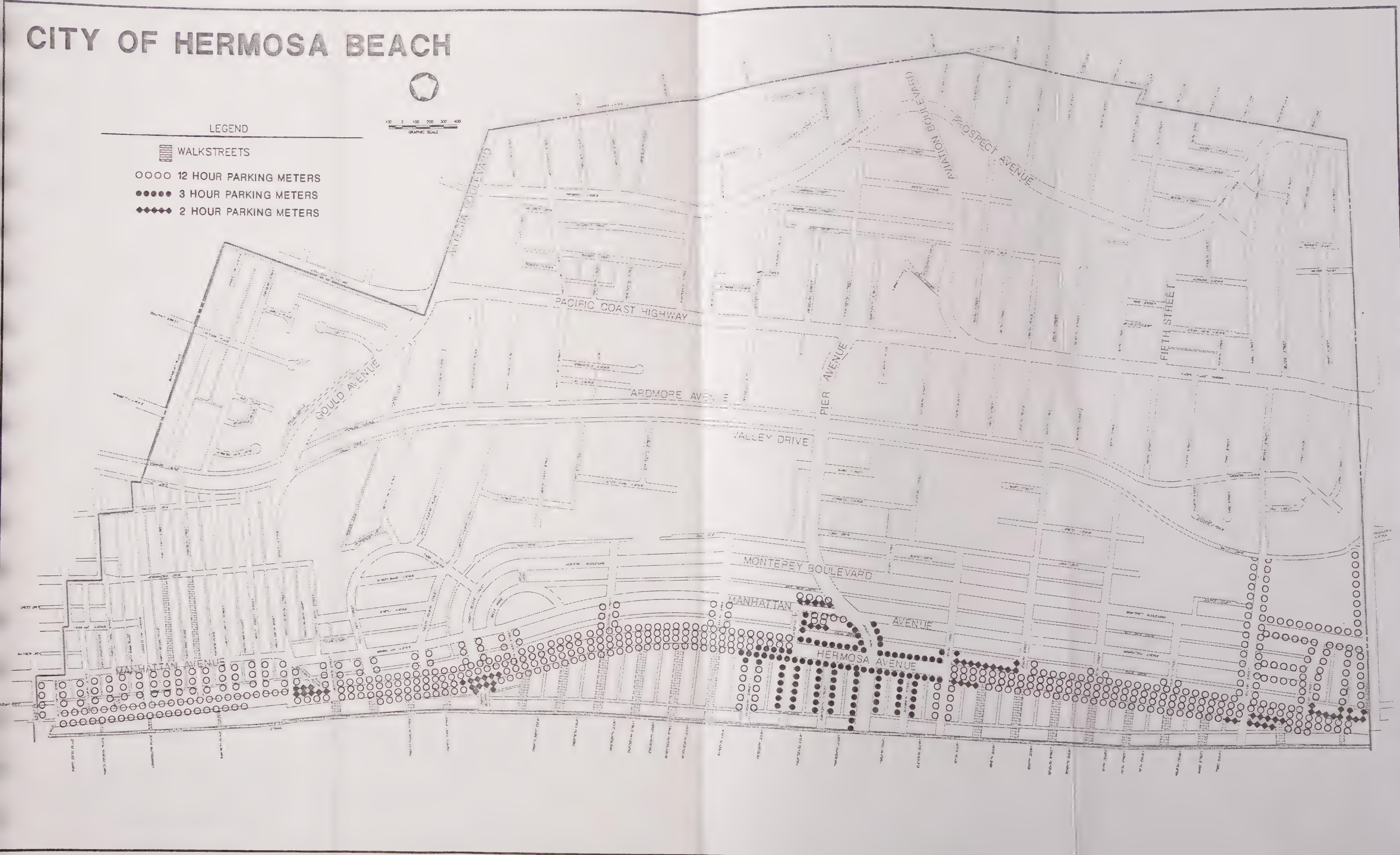


Figure 15
PARKING METER TIME ZONES

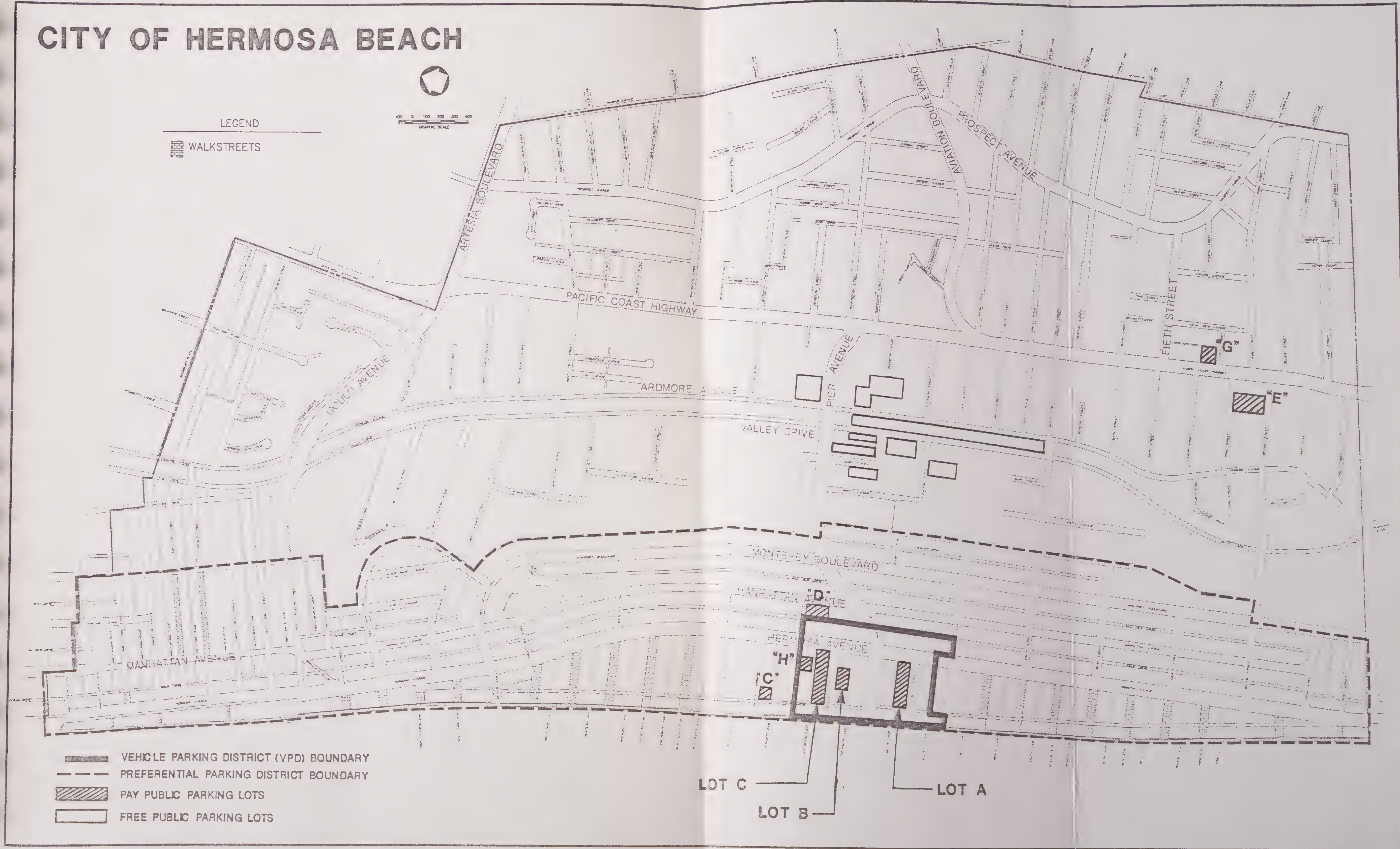


Figure 16
PARKING DISTRICT BOUNDARIES AND PUBLIC PARKING FACILITIES

Figure 17
PARKING ANALYSIS ZONES

Figure 18 illustrates the blocks with at least one hour of parking deficiency (greater than 90% occupancy) during the day (between 10:00 AM and 7:00 PM). The majority of the parking deficient blocks are located west of Pacific Coast Highway in the commercial areas of downtown Hermosa Beach and in the higher density/older residential areas. Table 22 summarizes parking occupancy by zone. The zones closest to the beach experience the highest occupancies (85 to 110%), while zones in the east section of the City generally have about 50 to 70 percent of all spaces occupied. More than 100% occupancy indicates that people are parking illegally in undesignated spaces.

The morning (10:00 AM-Noon), midday (Noon-3:00 PM) and afternoon/evening (3:00-7:00 PM) periods were found to experience similar parking deficient locations according to the results of the survey.

The survey results show that the streets near the beach are the most parking deficient locations. Streets with the greatest deficiencies include:

- Monterey Boulevard (16th Street - Herondo Street)
- Hermosa Avenue (28th Street - Herondo Street)
- Manhattan Avenue (12th Street - First Street)
- 10th Street, Pier Avenue, 13th Street and 14th Street (the Strand to Monterey Boulevard on Manhattan Avenue)
- 28th Street (Hermosa Avenue - Valley Drive)
- Longfellow Avenue (Hermosa Avenue - Ingleside Drive)
- 11th Street (Prospect Avenue - East City limit)
- 11th Street (Loma - Valley Drive)
- Silverstrand Avenue (25th Street - 24th Street)
- Myrtle Avenue (26th Street - 24th Street)

These streets all experience parking deficiencies on both sides of the street at least one hour during the day. Many other streets experience deficiencies on only one side of the street at least one hour during the day. In general, the greatest parking deficiencies occur on Monterey Boulevard and west of Monterey Boulevard. As shown in Figure 18, however, a few locations east of Monterey Boulevard also experience deficiencies. Field observations have also shown that parking deficiencies occur near Pier Avenue on Friday and Saturday nights from 6th Street to 12th Street due to activities at local theaters, restaurants, bars and night clubs plus residential parking on-street.

Off-street parking utilization at 43 key lots is summarized in Table 23. The parking utilization survey of the off-street lots was conducted concurrently with the on-street survey on two Saturdays in October 1987. Table 23 displays the maximum parking utilization in each lot during the morning, midday and afternoon/evening periods. Those lots with a parking deficiency (at least 90 percent occupied) are indicated in bold and highlighted with an asterisk.

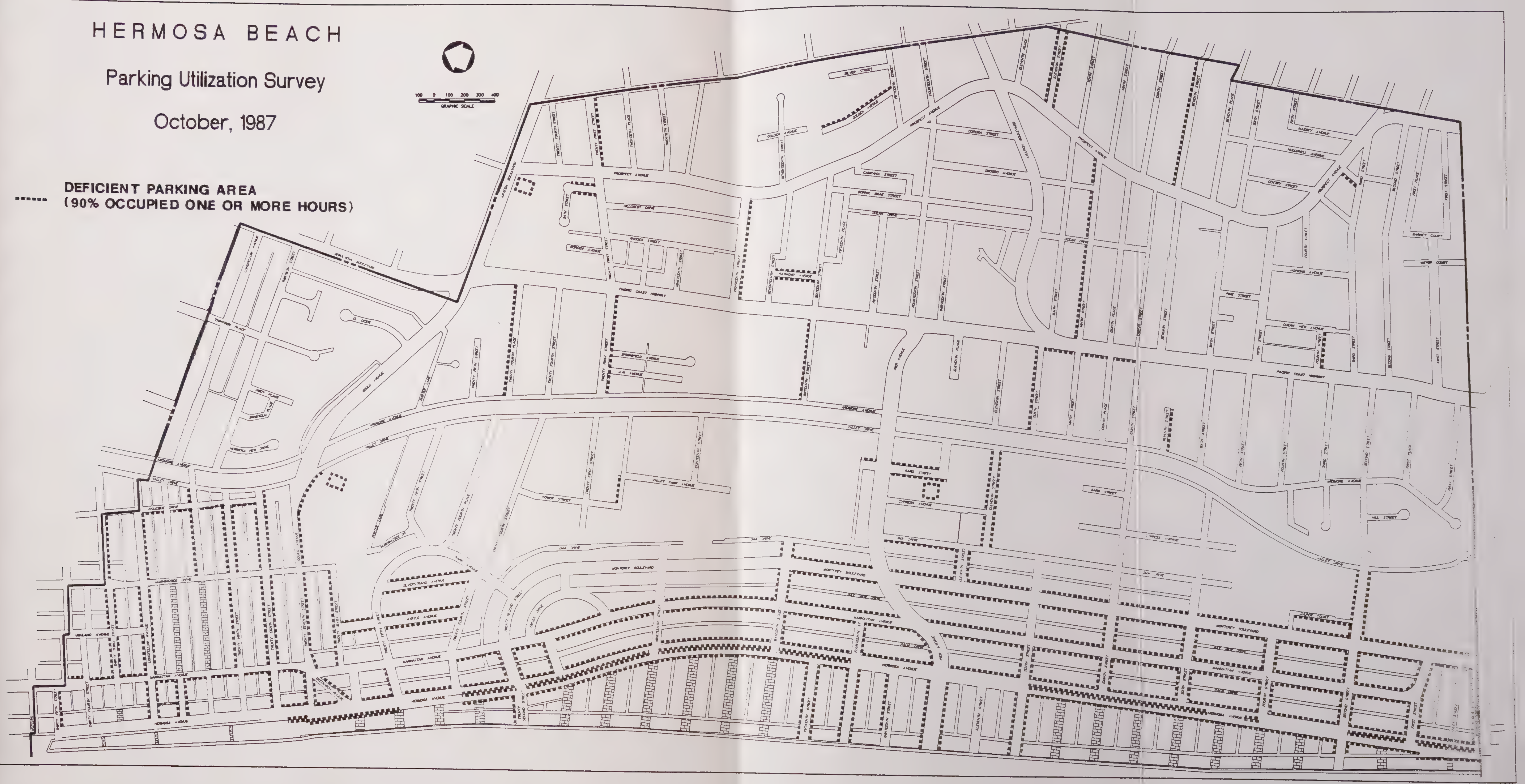


Figure 18
PARKING DEFICIENCIES

Table 22
Summary of Parking Space Occupancy by Parking Analysis Zone

Zone	Total Spaces Available	Parking Capacity (90% of total spaces)	Maximum Observed Occupancy (1 hour)	% Utilized	Surplus or Deficit
1	515	464	258	56%	206
2	441	397	248	62%	149
3	963	867	497	57%	370
4	1,011	910	580	64%	330
5	515	464	262	56%	202
6	280	252	191	76%	61
7	1,244	1,120	796	71%	324
8	222	200	110	55%	90
9	414	373	230	62%	143
10	668	601	514	86%	87
11	711	640	397	62%	243
12	345	311	267	86%	44
13	486	437	406	93%	31
14	306	275	288	105%	-13
15	548	493	406	82%	87
16	131	118	130	110%	-12
17	633	570	586	100%	0

Table 23
Off-street Parking Utilization by Zone

Zone	Lot Location	Morning Utilization	Midday Utilization	Afternoon/ Evening Utilization
1	E of Prospect, N of 18th	17%	33%	33%
1	E of Prospect, N of Aviation	60%	70%	72%
3	W of Prospect, S of Artesia	**100%**	**100%**	87%*
3	Lucky Market	48%	47%	36%
3	Alpha Beta Market	57%	59%	51%
4	S of Aviation, W of Ocean	69%	69%	41%
4	S of 10th, E of PCH	57%	67%	67%
4	N of 5th, E of PCH	77%	77%	46%
4	S of 5th, E of PCH	70%	50%	50%
4	N of 4th, E of PCH	25%	33%	21%
4	S of 2nd	36%	40%	37%
5	Huntington Thrift	35%	35%	4%
5	SAIC (Surface)	9%	19%	13%
5	SAIC (Underground)	5%	10%	7%
5	CJ Bretts	58%	**96%**	**100%***
5	Borrellis	10%	19%	38%
6	Kiwanas	**180%**	**200%**	**330%***
7	Wherehouse/Cal-Fed	68%	**98%**	72%*
7	Intl. House of Pancakes	**96%**	56%	30%*
7	Vons Plaza (Surface)	78%	**96%**	**94%***
7	Vons Plaza (Underground)	49%	49%	51%
7	Derwienerschitzel	18%	35%	35%
7	Community Center	50%	67%	35%
7	Alano of South Bay	**94%**	**100%**	61%*
7	Bob's Big Boy	70%	68%	68%
7	Nazerene Church	13%	8%	8%
7	Between Valley & Ardmore to 11th Street	67%	**100%**	**100%***
7	Library/Civic Center	26%	40%	43%
7	Storage/Warehouse	17%	25%	22%
7	W of Bard	**91%**	**96%**	**100%***
7	Mrs. Gooch's	63%	84%	**100%***
7	Post Office	80%	87%	80%
7	N of Pier, W of Bard	73%	65%	65%
7	Mortuary E of Loma	83%	67%	67%
8	W of Ardmore, S of 11th	36%	48%	33%
8	W of Valley, N of 8th	31%	31%	8%
11	St. Cross Church	12%	12%	17%
15	N of 13th	**96%**	**100%**	**94%***
15	S of 13th	20%	50%	78%
15	N of 11th	29%	43%	76%
15	S of 14th	82%	82%	**100%***
15	S of 15th	25%	45%	30%

Note: Survey taken on two Saturdays in October 1987
Bold/* = lots with observed parking deficiencies

Twelve lots experience a deficiency during at least one hour and three are fully occupied all day. The remaining lots generally experience 30 to 70 percent occupancy throughout the day and have surplus parking available. The twelve lots which experienced observed parking deficiencies are:

- CJ Bretts
- Kiwanas
- Von's Plaza (surface only)
- International House of Pancakes
- Wherehouse/Cal Fed
- Between Valley and Ardmore near Civic Center
- Mrs. Gooches
- Lot west of Bard
- Lot north of 13th Street
- Lot south of 14th Street
- Lot west of Prospect, south of Artesia

Seven of these twelve lots are located in Parking Zone 7, the Civic Center-downtown area, along Pier Avenue from Monterey Boulevard to Pacific Coast Highway and along PCH.

Pacific Coast Highway Parking Utilization

Table 24 displays the results of the on-street parking utilization survey along Sepulveda Boulevard/Pacific Coast Highway. Only one segment, Longfellow Avenue to Gould Avenue on the southbound side of the street, experienced a parking deficiency. That deficiency occurred form 6:00 to 7:00 PM. Parking utilization on other segments along Pacific Coast Highway ranged from a low of seven percent between Gould Avenue and Aviation Boulevard on the east side of the street to 75 percent between Artesia Boulevard and Pier Avenue on the west side of the street.

The California Department of Transportation completed a study in 1986 which analyzed the potential impacts of peak hour parking restrictions on Pacific Coast Highway through Hermosa Beach in the southbound direction. The full text of that study is included in Appendix I.

The major conclusions reached by Caltrans were as follows:

- Businesses in the area along Pacific Coast Highway will experience substantial growth in sales even if a limited store front parking restriction is implemented (e.g., restrictions in the southbound direction only during the evening peak hour period).

- Off-street parking is available to support growth and prevent economic impacts due to limited parking restrictions on Pacific Coast Highway.

Table 24
Pacific Coast Highway Parking Utilization

			Parking Utilization Per Hour									
Segment	Location	Spaces	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	Average Daily Utilization
West Side												
Longfellow Ave.-Gould Ave.	SB	36	61%	67%	69%	75%	67%	56%	53%	61%	**94%**	60%
Gould Ave.-Pier Ave.	SB	51	60%	60%	55%	65%	53%	61%	61%	75%	65%	55%
10th St.-First St.	SB	64	41%	45%	52%	64%	63%	69%	55%	50%	45%	48%
East Side												
First St.- Aviation Blvd.	NB	63	32%	41%	46%	32%	35%	38%	37%	32%	35%	33%
Aviation Blvd.-Artesia Blvd.	NB	45	9%	16%	7%	13%	18%	9%	13%	11%	11%	11%

Bold = Based on parking survey conducted Saturday, October 17, 1987

Downtown Parking Study

Following completion of the existing Circulation Element, a downtown parking study was prepared in 1981*. That study analyzed parking needs in the downtown area bounded by 15th Street, Manhattan Avenue, Eighth Street and the Strand. The major conclusions of that study were:

- The downtown parking supply is fully utilized during typical summer days and about 60 percent utilized on typical winter days.
- Additional parking will be required in the downtown area to serve increased business activity, new development and beach parking demands under both the short-range (5 years) and long-range (20 years) development plans.
- 800 to 1,000 additional spaces will be required in the short range.
- Two, four-level parking structures should be constructed on the sites of Municipal Parking Lots A and C.
- Both structures should include ground floor retail uses to make them fit in better with surround commercial land uses and to raise revenue.
- The two structures would cost a total of $16,250,000 in 1981 dollars.

As discussed previously in this section, the parking surveys conducted for the Circulation, Transportation and Parking Element Update generally coincide with the results of the Downtown Parking study and indicate that significant parking deficiencies do exist in the downtown as of 1987. Parking shortages were measured in the downtown area along Hermosa Avenue, Pier Avenue, Manhattan Avenue, Monterey Boulevard, 10th Street, 13th Street, 14th Street and 15th Street.

Summer Peak Conditions

Hermosa Beach and other coastal communities experience significant increases in beach visitors during the summer season. The Downtown Parking Study indicated that parking utilization in the downtown area is approximately 60 percent higher during peak summer months relative to peak months during the winter. The parking study data also indicated that the average parking duration in the downtown area increases during the summer from 1.26 hours per vehicle to 2.88 per vehicle. No data is available to compare summer versus winter parking demand in other portions of the City. All areas close to the beach, however, experience much greater parking demand during the summer due to an increase in visitors to the beach. Residents of Hermosa Beach in areas closes to the beach have been observed to move their cars out of their garages

---

* "Downtown Parking Study for the City of Hermosa Beach," prepared for the Board of Commissioners, Vehicle Parking District No. 1, by Greer and Company, August 1981.

or driveways and onto the street during evening hours so as to reserve their off-street parking spaces for visitors expected the next day. This corroborates the data which indicate that beach visitors have a difficult time finding parking near the beach on summer weekends and often circle around looking for parking and thereby increasing congestion. The demand for beach parking could be expected to be almost limitless; the more parking provided, the greater the number of visitors who would drive to Hermosa Beach on peak summer weekends. Rather than attempting to "satisfy beach parking demands," the City should determine how much parking can be physically and financially provided to serve beach visitors.

5.3 PROJECTED PARKING CONDITIONS

Anticipated development within the City will result in additional parking demand. New residential units, retail stores, restaurants, offices and other new projects will require parking. Future parking demand resulting from anticipated development has been estimated and compared to the parking supply for new projects based on parking code.

Estimates of future demand are based upon measured parking demand rates listed in the publication *Parking Generation, An Informational Report* published by the Institute of Transportation Engineers. The average parking generation rates in the report are used to calculate parking demand for retail, restaurant, hotel and office development. For new residential development, the maximum observed parking demand rate is used to calculate potential future demand. The maximum rate is used for residential projects because Hermosa Beach, like other coastal communities, has more persons per unit and more vehicles per unit than other typical cities located away from the beach.

Information collected by the U.S. Census Bureau shows that although 53 percent of all rental units in Hermosa Beach have only one bedroom or less, the median number of persons per housing unit is 1.82. Over 35% of all housing units have 2 vehicles available and 18 percent have 3 or more vehicles available for use. Therefore, the maximum observed parking demand rate for residences is an appropriate guideline in Hermosa Beach.

The analysis of forecast parking demand and supply is summarized in Table 25. As shown in the table, a net city-wide surplus of over 1,750 parking spaces (715 office, 650 residential, 368 retail) is forecast based on the assumption that the anticipated development will all provide on-site parking in accordance with the City's stringent Parking Code requirements. Based on the analysis, City Parking Code requirements would provide adequate parking for development throughout the City for every land use except the restaurant in Traffic Analysis Zone 5, which would have a deficiency of 43 spaces.

The surplus parking available due to new development will help alleviate existing parking deficiencies. This is true in residential neighborhoods because new housing developments will likely be replacement of existing housing stock which was built with substandard parking. New residential developments are required to provide off-street parking for both residents and visitors, a policy that will over time reduce parking deficiencies in existing parking-deficient

Table 25
Projected Parking Demand and Supply Due to Forecast Development within the City

Traffic Analysis Zone[1]	Anticipated Development[2]	New Spaces Required by Code	Estimated Future Demand[3]	Surplus or Deficiency
4	86 MFU	215	165	+50
5	86 MFU	215	165	+50
	100 Senior Units	50	50	0
	80 Room Hotel	95	70	+25
	28,240 SF Retail	113	85	+28
	17640 SF Restaurant	177	220	-43
6	86 MFU	215	165	+50
	96 Room Hotel	119	81	+38
	3,000 SF Retail	12	9	+3
7	86 MFU	215	165	+50
9	86 MFU	215	165	+50
	68,540 SF Retail	274	206	68
	82,870 SF Office	351	208	+143
10	86 MFU	215	165	+50
	68,540 SF Retail	274	206	68
	82,870 SF Office	351	208	+143
11	86 MFU	215	165	+50
12	86 MFU	215	165	+50
13	86 MFU	215	165	+50
	68,540 SF Retail	274	206	68
	82,870 SF Office	351	208	+143
14	86 MFU	215	165	+50
15	86 MFU	215	165	+50
	68,540 SF Retail	274	206	68
	82,870 SF Office	351	208	+143
16	86 MFU	215	165	+50
17	86 MFU	215	165	+50
	68,540 SF Retail	274	206	68
	82,870 SF Office	351	208	+143
Net Surplus				1,756

Notes:

[1] Zones 1, 2, 3 and 8 have no anticipated development

[2] MFU = multi-family housing units, SF = square feet

[3] *Parking Generation*, Institute of Transportation Engineers, Washington, D.C., 1985. (Average reates used except for residential land use where highest rate used.)

residential areas. This would in turn make street parking spaces available which are currently taken by residents and guests of older housing units.

If new housing development occurs evenly throughout the City, an average of about 40 new parking spaces will be made available per parking analysis zone. The new parking will provide the greatest beneficial impact in areas near the beach where parking deficiencies are currently most severe. It is impossible to forecast, however, whether or not the additional spaces will alleviate specific problem blocks without knowledge of exactly where new housing will be built.

5.4 PARKING RECOMMENDATIONS

As discussed in the previous section, redevelopment will alleviate some parking deficiencies as housing with substandard parking is replaced with new housing with adequate parking for all residents and guests. Similarly, new retail businesses and offices will provide some surplus parking to help relieve existing problems. Other potential solutions should be addressed, however, because future development may not occur as planned and it will likely be a slow process when it does occur. The following sections describe some recommended actions related to the City's parking system.

Zoning Code

The new parking standards which were adopted in 1986 provide for sufficient parking for most land uses based upon measured parking demand throughout Southern California. The requirement for restaurants, however, does not provide adequate spaces to accommodate average demand (12 to 14 spaces per 1,000 gross square feet of building area).* The City should consider amending the current requirement of 1 space/100 square feet of gross floor area to 1 space/75 square feet.

Commercial Public Parking Structures

Additional off-street parking may be provided by the private sector in non-residential areas, over time, as buildings with little or no off-street parking are replaced by buildings with parking in accordance with the City's current Parking Code. It has not been determined at this point in time which buildings, if any, will be redeveloped and new parking provided. Therefore, the City should continue to pursue strategies to increase the supply of public off-street parking by constructing parking structures and/or surface lots on public-owned property.

The best candidate locations for parking structures are on one of the three lots (A, B or C) in the Vehicle Parking District No. 1 in downtown or at the community center near the Civic Center. Additional off-street parking could also be provided in a paved surface lot on part of the former railroad right-of-way adjacent to City Hall, between Eleventh Place and Pier Ave.

---

* *Parking Generation, An Informational Report*, Institute of Transportation Engineers, Washington, D.C., 1985.

Construction of the surface lot adjacent to City Hall on the railroad right-of-way should be the first priority for new public parking since it would be the lowest cost option. The second priority should be for a parking structure on one of the lots in downtown. The surface lot could serve as weekday employee and visitor parking for the Civic Center area and as weekend visitor parking if connected to downtown and the beach via a shuttle.

A downtown parking structure would primarily serve downtown commercial establishments with some lesser degree of relief for beach-related visitor parking. The Civic Center surface lot or community center parking structure would have the advantage of diverting some traffic away from the downtown area rather than further concentrating traffic in the vicinity of a structure downtown. The city should study construction of a parking structure downtown to enhance business, possibly on the northwest corner of Pier Avenue/Manhattan Avenue. The possibility of a land trade to obtain the site should be considered.

Hermosa Avenue Angle Parking

Hermosa Avenue currently has parallel parking on both the north and southbound sides throughout most of the City. Parallel parking is also provided on both sides of a raised 6-foot median on many blocks.

Angle parking is used as an alternative to parallel parking on some streets in the City, such as Pier Avenue. Angle parking generally provides more spaces than parallel parking along the curb. With angle parking, cars typically park head first into the curb at an angle of 30 degrees, 45 degrees, 60 degrees, or 90 degrees. Figure 19 shows the types of angle parking commonly used. Thirty degree angle parking is closest to parallel parking, while vehicles are perpendicular to the curb with 90 degree parking.

Ninety degree angle parking provides the greatest number of spaces, but also takes the most roadway space and is the most difficult to maneuver into and out of. Thirty degree angle parking is much easier to maneuver into and out of but provides fewer spaces per section of curb. For comparison, note that Pier Avenue near Hermosa Avenue currently has 45 degree angle parking.

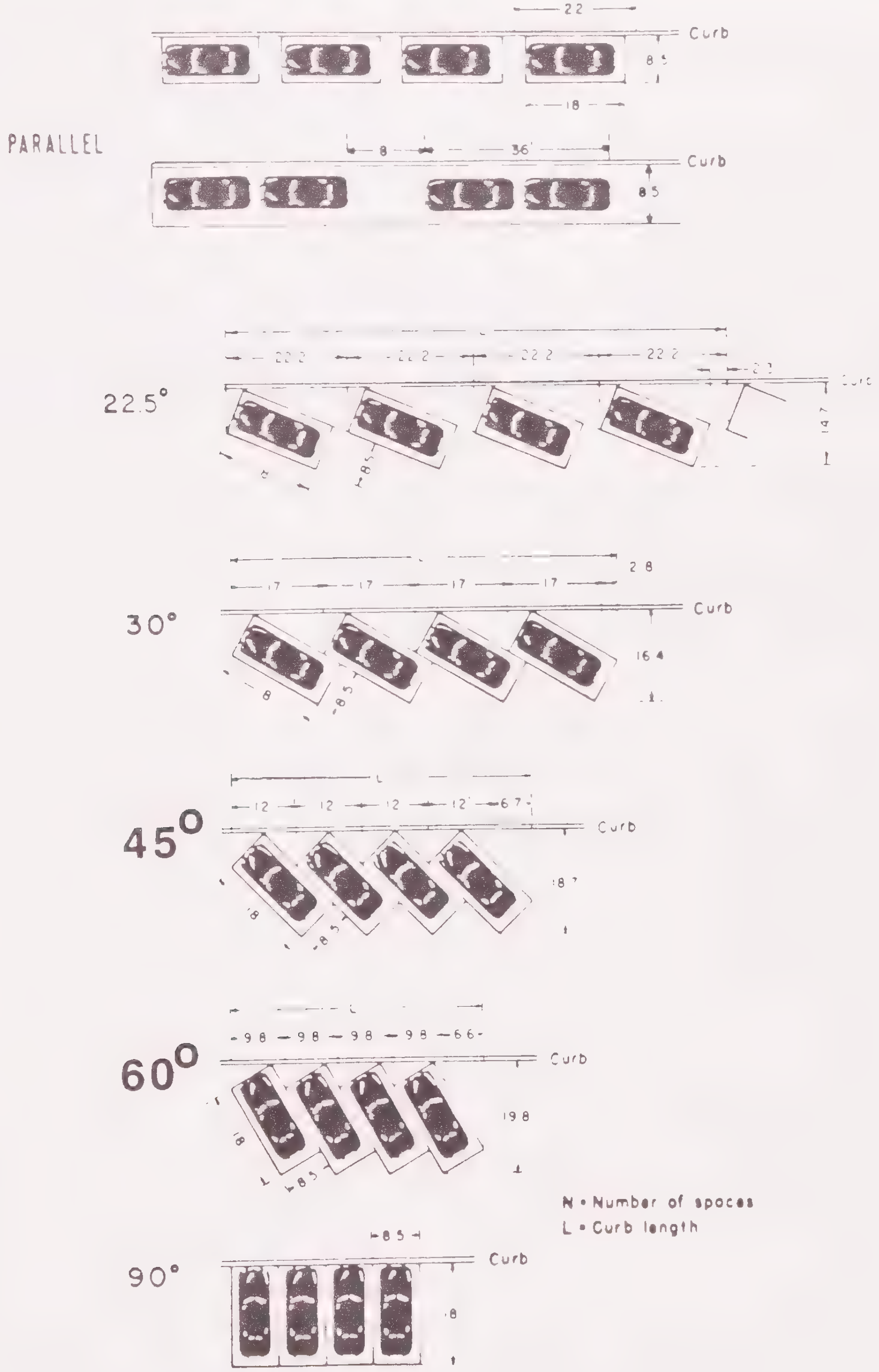
A study completed in 1986 analyzed the potential for angle parking on Hermosa Avenue in the downtown area between 10th Street and 14th Street[*]. The conclusions of that study are as follows:

- 90 degree angle parking is not feasible between 10th Street and 14th Street due to the geometrics of the roadway.

- 60 degree parking would be feasible only if the existing 16-foot medians are reduced to 6 feet and one travel lane is removed. Approximately 44 spaces (an increase of

---

[*] "Analysis of Impacts of Angle Parking on Hermosa Beach," prepared by BSI Consultants for the City of Hermosa Beach, November 1986.



SOURCE: Design of Urban Streets,
USDOT, FHWA, 1980

Figure 19
TYPES OF CURB PARKING

13%) would be added to Hermosa Avenue between 10th and 14th Streets with 60 degree angle parking along the curb.

- 45 degree angle parking would be feasible with a slight reduction in the median island size and removal of one travel lane. Approximately 27 spaces (an 8% increase) would be added.

- Two travel lanes could be maintained with either 45 degree or 60 degree parking. This would require removal of most of the existing 16-foot median and elimination of left-turn lanes. The use of two lanes plus angle parking, however, would provide approximately the same amount of roadway capacity for moving vehicles as angle parking with one lane.

Following completing of this study, angle parking was not implemented on Hermosa Avenue.

The feasibility of angle parking on the remainder of Hermosa Avenue has been analyzed as part of the Circulation Element Update. South of 10th Street and north of 14th Street, Hermosa Avenue is generally 86 feet wide with a 6-foot raised median. Each side of the street is 40 feet wide and has two through lanes plus parallel parking on both the east and west sides of the street.

The most feasible options for angle parking on Hermosa Avenue include 45 or 60 degree parking. Other options, such as 90 degree angle parking, would provide too many operational problems while 30 degree angle parking would not result in the addition of many spaces. Angle parking could be provided either along the outside curbs or along the median. Angle parking along the outside curbs would add only a small number of spaces on many blocks (due to the large number of curb cuts for driveways) and would actually result in a net loss of parking on some blocks. Angle parking along the median would therefore be the most feasible alternative. Median angle parking would, however, result in more pedestrian crossings of Hermosa Avenue as drivers leave their cars for home, nearby shops or the beach.

Table 26 shows the number of spaces that currently exist per block and the approximate number that would be added with angle parking at 45 and 60 degrees along the median. Forty-five degree angle parking would result in a net increase of 57 spaces or about 8 percent. Some blocks, however, would actually lose several spaces due to 45 degree angle parking. Sixty degree angle parking in the median would result in approximately 234 additional spaces or about 30 percent more parking.

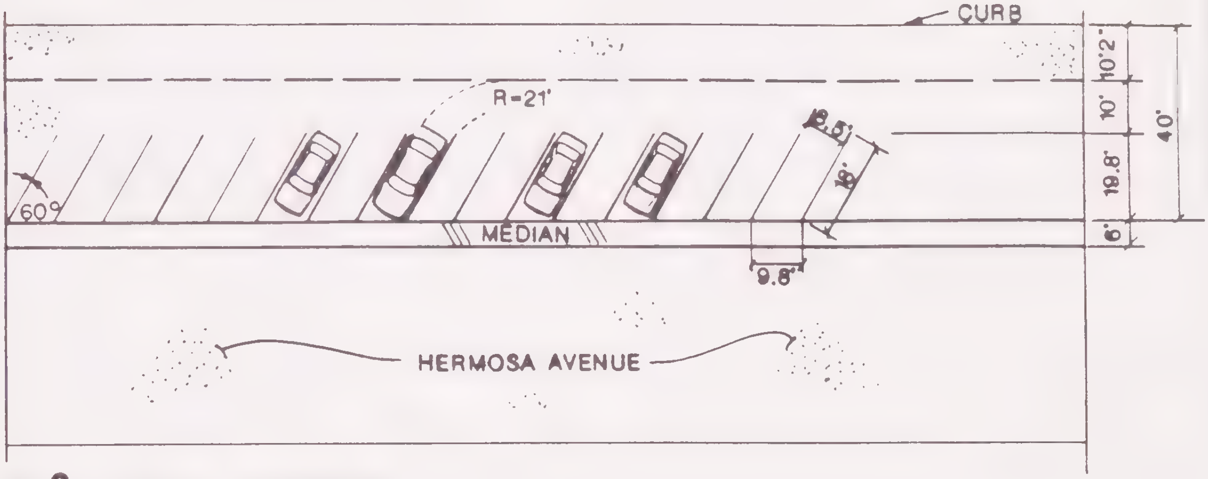
Angle parking along the median would result in loss of some roadway capacity for vehicles in through lanes. The current striping on Hermosa Avenue allows for two travel lanes in approximately 24 feet of roadway. Angle parking would reduce the available roadway usable for through travel lanes to about 20 or 21 feet. Parking maneuvers for angle parking also require more space in the roadway than maneuvers for parallel parking. Figure 20 conceptually illustrates the roadway with 45 and 60 degree angle parking. As illustrated by the figure, substandard (less than 12-foot) lanes would result with angle parking spaces of standard

Table 26
Parking Inventory on Hermosa Beach with Angle Parking

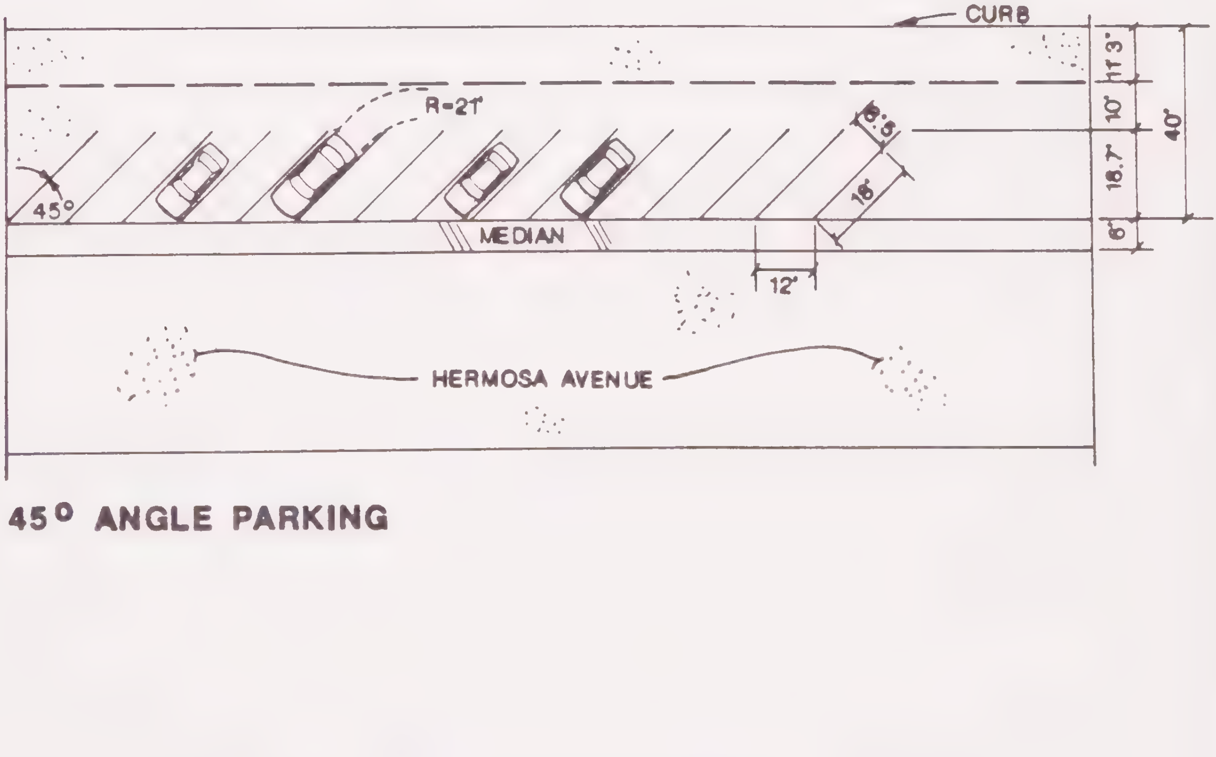
		Spaces Available		
Segment	Direction	Existing	45 Degree	60 Degree
Herondo St. - 2nd St.	NB	38	44	54
	SB	44	44	54
2nd St. - 4th St.	NB	33	36	44
	SB	36	36	44
4th St. - 6th St.	NB	34	36	44
	SB	31	36	44
6th St. - 8th St.	NB	32	36	44
	SB	30	36	44
8th St. - 10th St.	NB	13	12	15
	SB	33	28	34
10th St. - Pier Ave.	NB & SB*	26	36	43
Pier Ave. - 14th St.	NB & SB*	30	44	52
14th St. - 16th St.	NB	33	28	34
	SB	33	28	34
16th St. - 19th St.	NB	36	43	52
	SB	40	43	52
19th St. - 22nd St.	NB	46	53	65
	SB	52	53	65
22nd St. - 24th St.	NB	24	26	32
	SB	28	26	32
24th St. - 25th St.	NB	29	24	30
	SB	17	24	30
25th St. - Greenwich Vil.	NB	15	16	19
	AB	9	16	20
Total		747	804	981

---

*From "Analysis of Impacts of Angle Parking on Hermosa Avenue," November 1986.



60° ANGLE PARKING



45° ANGLE PARKING

PARKING SPACE DIMENSION SOURCE:
Design of Urban Streets, USDOT, FHWA, 1980

SCALE: 1" = 40'

Figure 20
HERMOSA AVENUE ANGLE PARKING WITH 60° AND 45° ANGLE SPACES

dimension. To maintain two lanes with acceptable widths, either smaller parking spaces would be required or the median width would need to be reduced.

If a single travel lane was striped instead of two substandard lanes, four signalized intersections and four intersections with stop signs on Hermosa Avenue would be impacted by the loss of roadway capacity. Table 27 displays estimated existing and future intersection level of service with angle parking and loss of one through lane due to angle parking. Significant impacts would occur at Hermosa Avenue/Pier Avenue due to loss of roadway capacity for angle parking. Other signalized intersections along Hermosa Avenue would experience increases in volume/capacity ratio but would remain at acceptable level of service B or better.

Future level of service projections with angle parking indicate that the intersection of Hermosa Avenue/Pier Avenue would operate at or above capacity. Other signalized intersections would operate at acceptable service levels.

Angle parking on Hermosa Avenue would likely cause some redistribution of traffic to adjacent streets without angle parking. Other communities in California (including San Francisco and San Diego) that have implemented angle parking strategies have also documented traffic speed reductions up to 10 miles per hour on affected streets.

Summary - Angle Parking on Hermosa Avenue

Angle parking is not feasible for the portion of Hermosa Avenue from 10th Street to 14th Street because too much roadway capacity would be lost and significant traffic congestion would result at the intersection of Hermosa Avenue and Pier Avenue. Angle parking along portions of Hermosa Avenue north of 14th Street and south of 10th Street would be feasible but would result in some secondary impacts such as conflicts between parking cars and moving traffic as well as additional pedestrian traffic in the street. Forty-five degree angle parking would add about 57 spaces (an 8 percent increase) and 60 degree angle parking would add about 234 spaces (a 30 percent increase).

Two lanes for through traffic could be maintained with either 45 degree or 60 degree angle parking. The median would likely require reconstruction with 60 degree angle parking to add width to the traveled way. With both scenarios, the parked vehicles would back directly into the inside travel lane rather than into a buffer area. This type of maneuver would require greater care on the part of the parking vehicle. Also, if a parking maneuver is made simultaneously with a turn into/out of a driveway, the entire street would be momentarily blocked.

Forty-five degree angle parking with four travel lanes in an 80-foot roadway has been successfully implemented on Pier Avenue and could likely be installed on Hermosa Avenue north of 14th Street and south of 10th Street. Angle parking with one lane for through traffic is an alternative which would further reduce roadway capacity but would also allow more room for parking maneuvers into/out of the angled spaces.

Table 27

Intersection Level of Service with and without Angle Parking on Hermosa Avenue

Intersection	Existing		Existing With Angle Parking		Future		Future With Angle Parking	
	Volume/ Capacity	LOS	Volume/ Capacity	LOS	Volume/ Capacity	LOS	Volume/ Capacity	LOS
AM Peak								
Hermosa Ave./Herondo St.	0.33	A	0.33	A	0.41	A	0.41	A
Hermosa Ave./Pier Ave.	0.62	B	0.88	D	0.77	C	1.09	F
Hermosa Ave./13th St.	0.21	A	0.41	A	0.26	A	0.51	A
Hermosa Ave./14th St.	0.22	A	0.42	A	0.27	A	0.52	A
PM Peak								
Hermosa Ave./Herondo St.	0.36	A	0.55	A	0.45	A	0.68	A
Hermosa Ave./Pier Ave.	0.51	A	0.78	C	0.64	B	0.97	E
Hermosa Ave./13th St.	0.29	A	0.51	A	0.34	A	0.63	B
Hermosa Ave./14th St.	0.37	A	0.50	A	0.33	A	0.61	B

Recommendation - Angle Parking on Hermosa Avenue

Based upon the analysis of angle parking discussed in this section, conversion of Hermosa Avenue north of 14th Street and south of 10th Street to angle parking is not recommended. Sixty degree angle parking would add a significant number of spaces (234) but would require narrowing of the existing median to approximately two feet. Without a median of sufficient width, pedestrians would be forced to cross Hermosa Avenue at midblock in conflict with moving traffic. Also, parking maneuvers would be made in a moving traffic lane, thereby creating additional accident potential and lowering roadway capacity.

Forty-five degree angle parking would provide fewer impacts (i.e., no loss of median width, better angle for parkers to see moving traffic), but would result in only about 57 new parking spaces. This eight percent increase in parking space on Hermosa Avenue does not justify the potential impacts such as additional accidents and loss of roadway capacity.

The issue of angle parking along Hermosa Beach should be studied in greater detail for consideration of implementation.

Index

GLOSSARY OF TERMS

Capacity

Capacity refers to the maximum number of vehicles that can pass over a given section of roadway during a given time period under prevailing roadway and traffic conditions. Capacity is usually expressed in vehicles per lane per hour and is a function of street width, configuration, signals and potential conflict points.

Goal

The ultimate purpose of an effort stated in a way that is general in nature and immeasurable; a broad statement of intended direction and purpose.

High Occupancy Vehicle (HOV)

A vehicle carrying two or more passengers either in a carpool, vanpool, bus or other multiple passenger vehicle.

Implementation Policy

A specific statement guiding action and implying a clear commitment.

Level of Service (LOS)

An indication of a roads performance based on an evaluation of driving conditions, with six performance ratings as follows:

A - Free Flow, very small or no delays at traffic signals
B - Stable Flow, little delay
C - Restricted flow, moderate delays
D - Approaching unstable flow, substantial delays
E - Capacity Conditions, Long delays
F - Forced flow, unacceptable delays

Neighborhood Traffic Controls

Measures designed to reduce or prohibit traffic intrusions into residential neighborhoods and encourage traffic to remain on major streets. Measures include but are not limited to the following:

- improving traffic flow on major streets by expanding street capacity through parking prohibitions or physical widening, signal synchronization, or reducing cross traffic interference;

- diverters or medians that restrict or prevent access to certain neighborhood streets;

- pavement treatment that reduces traffic speed;

- narrowing intersection or street width to visually or physically discourage through traffic from entering local neighborhood streets.

Neighborhood Management Program

A cooperative program involving the City and residents which seeks to improve neighborhood environments by mitigating the impact of vehicular traffic on residential neighborhoods. Neighborhood programs generally encourage citizen participation and help staff to make efficient use of City resources by prioritizing traffic management requests. Traffic control devices (signs, signals and markings) as well as traffic management devices (curbs, medians, dividers, etc.) may be used by the City to address problems identified as part of the program.

Objective

A measurable goal; a statement of desireable accomplishment within a specific time frame that is definite enough to know when and if it has been achieved.

Preferential Parking District

An area where neighborhood residents are provided unrestricted access to parking on the street and where non-resident motorists have restricted access to on-street parking in the area. In general, residents are permitted to park their automobiles that are identified with a permit at all times of the day or night and non-resident motorists are either not permitted to park on the street in the neighborhood or are permitted to park on the street only during a certain time of day for a limited length of time.

Transportation Demand Management

Individual actions or comprehensive plans to reduce the number of vehicular trips generated by or attracted to new or existing development. TDM measures attempt to reduce the number of vehicle trips by increasing bicycle or pedestrian trips or by expanding the use of bus, transit, carpool, vanpool or other high occupancy vehicles. TDM measures include, but are not limited to the following:

- building bicycle routes and facilities;

- improving bus routes, building bus shelters, publicizing existing under-utilized transit routes;

- subsidizing bus use or providing free bus tokens to the public or at the private level through employers;

- providing, organizing or subsidizing vanpools;

- providing carpool matching services, subsidizing carpool users, providing preferential parking areas for car pools, or reducing parking costs for carpools.

- providing commuter programs.

Volume/Capacity Ratio

This is the most common quantitative measurement of roadway operating conditions. The V/C ratio shows the amount of total roadway capacity that is utilized by traffic volume. Volume/capacity ratios approaching 1.0 indicate a roadway or intersection where traffic flow is near capacity and where relatively few additional cars can be accommodated.